Measurement of the proton spin structure at long distances

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Measuring the spin structure of nucleons (protons and neutrons) extensively tests our understanding of how nucleons arise from quarks and gluons, the fundamental building blocks of nuclear matter. The nucleon spin structure is typically probed in scattering experiments using polarized beams and polarized nucleon targets, and the results are compared with predictions from Quantum Chromodynamics directly or with effective theories that describe the strong nuclear force. Here we report on new proton spin structure measurements with significantly better precision and improved coverage than previous data at low momentum transfers between 0.012 and 1.0 GeV^2. This kinematic range provides unique tests of effective field theory predictions. Our results show that a complete description of the nucleon spin remains elusive. They call for further theoretical works that include the more fundamental lattice gauge method. Finally, our data agree with the Gerasimov-Drell-Hearn sum rule, a fundamental prediction of quantum field theory.

Understanding how hadronic matter arises from its fundamental constituents, quarks and gluons, is central to the study of nuclear and particle physics. Although the strong interaction is described by Quantum Chromodynamics (QCD), it remains the least understood force in the Standard Model. The difficulty arises because the QCD coupling constant α_s becomes large at long distances [1], making traditional perturbative expansions in powers of α_s infeasible. Consequently, complex phenomena like quark confinement are hard to understand quantitatively. The most fundamental approach to calculate QCD non-perturbatively is lattice gauge theory [2]. A second approach is provided by Effective Field Theories (EFT), which maintain rigorous, traceable connections to the underlying fundamental theory. A popular approach is chiral effective field theory (χEFT) [3], which is constructed from hadronic degrees of freedom and incorporates the symmetries of QCD, including its approximate chiral symmetry. By making use of a perturbative expansion in small parameters, χEFT predicts experimental observables from a limited set of phenomenological inputs. Although generally successful, χEFT has been challenged by experimental data that depend explicitly on spin degrees of freedom [4]. This is not unprecedented: other theoretical predictions had been thought to be robust until confronted with spin observables, including parity symmetry [5], the Ellis-Jaffe spin sum rule [6], the nucleon spin asymmetry A_1 [7], and lattice QCD calculations of the nucleon axial charge [8]. Therefore, fully understanding QCD and nuclear matter requires an extensive set of spin observables.

We report on the measurements performed using a polarized electron beam to probe a polarized proton at the Thomas Jefferson National Accelerator Facility (Jefferson Lab), in Virginia, USA. We measured spin-dependent cross sections in the nucleon resonance region at very low Q^2, i.e. at long distances. Here, Q^2 is the square of the 4-momentum transferred from the electron to the proton and represents the inverse of the distance scale probed by the scattering. Polarized electrons with energies of 3.0, 2.3, 2.0, 1.3 and 1.1 GeV, produced by Jefferson Lab's Continuous Electron Beam Accelerator Facility (CEBAF), were scattered from a polarized proton target [9, 10]. The beam polarization (P_b) was measured to be 85% with a total uncertainty of 2% using a Møller polarimeter [11]. The target contained granules of NH_3 that were dynamically polarized [9] at 1K in a 5 T magnetic field. The target polarization (P_t) varied from 75% to 90%, as monitored by nuclear magnetic resonance polarimetry. As described below and in the Methods section, the product P_bP_t was measured to a relative precision of $(2-5)\%$. The scattered electrons were identified using the CEBAF Large Acceptance Spectrometer (CLAS) [11], which was equipped with a multi-layer drift chamber detector for charged particle tracking, a scintillator hodoscope for particle time-of-flight measurement, an electromagnetic calorimeter and a Cherenkov Counter for discriminating scattered electrons from other background particles. The Cherenkov Counter in one of the six sectors of CLAS was modified specifically for this experiment to detect electron scattering at angles as low as 6°. Only this sector was used to collect the inclusive electron scattering data reported here.

The dominant scattering process is the one-photon exchange, in which the incident electron exchanges a single virtual photon with the nucleon of mass M, see Fig. 1. The 4-momentum transferred from the electron to the nucleon is $q^\mu = k^\mu - k'^\mu = (\nu, \mathbf{q})$, in which k^μ and k'^μ are the 4-momenta of the incident and the scattered electrons, respectively, and ν is the energy transfer. A Lorentz invariant description of the process includes: $Q^2 = -q^2$, and the Bjorken scaling variable $x \equiv -q^2/(2P\cdot q)$ or the invariant mass of the photon-nucleon system $W \equiv \sqrt{(P+q)^2}$. The inclusive electron scattering cross section can be written as a linear combination of structure functions, of which $F_1(x, Q^2)$

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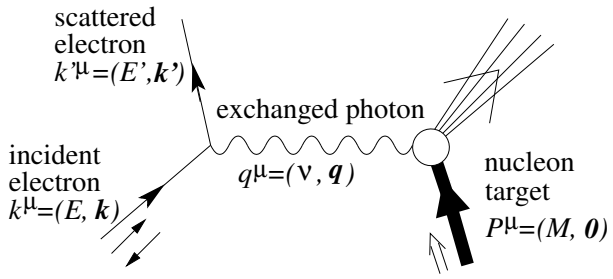

FIG. 1. The one-photon exchange process of polarized electron scattering off a polarized nucleon. The 4-momenta of the incident and the scattered electrons are $k^\mu = (E, \mathbf{k})$ and $k'^\mu = (E', \mathbf{k}')$, respectively. The spin direction of the incident electron is indicated by the thin arrows $\uparrow\downarrow$. The nucleon, if at rest, has $P = (M, \mathbf{0})$ and its spin is indicated by the outlined arrow $\Uparrow$.

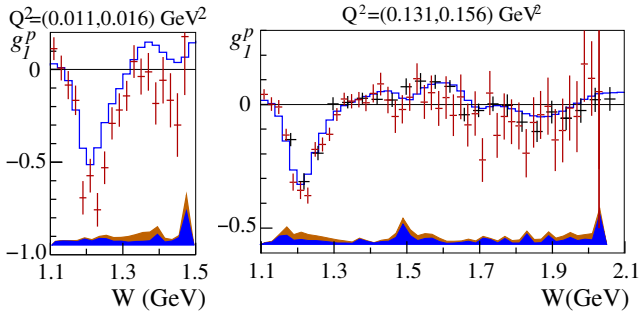

FIG. 2. Results on g_1 of the proton (red crosses) vs invariant mass W for the lowest ($0.011 \leq Q^2 \leq 0.016$ GeV^2) bin and an intermediate ($0.131 \leq Q^2 \leq 0.156$ GeV^2) bin, compared to a parameterization of previous world data (blue curve) [12]. The error bars are statistical. The blue and the brown bands show the experimental and the parameterization uncertainties, respectively. Results from a previous experiment carried out in Jefferson Lab's Hall B [12] are shown when available (black crosses).

and $F_2(x, Q^2)$ represent the spin-independent part of the cross section, and $g_1(x, Q^2)$ and $g_2(x, Q^2)$ describe its dependence on the beam and target spin polarization. These structure functions encode the internal structure of the target. Alternatively, one can describe the spin-dependent part of the nucleon response in terms of virtual photo-absorption asymmetries $A_1(x, Q^2) = [g_1 - (Q^2/\nu^2)g_2]/F_1$ and $A_2(x, Q^2) = (\sqrt{Q^2}/\nu)(g_1 + g_2)/F_1$ [12]. The polarized cross section difference $\Delta\sigma \equiv \sigma^{\downarrow\Uparrow} - \sigma^{\uparrow\Uparrow}$, with $\uparrow\downarrow$ representing the beam helicity state and $\Uparrow\Downarrow$ the target spin orientation, is largely proportional to g_1 (or equivalently A_1F_1) with a small contribution from A_2F_1.

The proton spin structure function g_1 and the product A_1F_1 were extracted from the difference in the measured yield, N, of scattered electrons from a longitudinally polarized target between opposite beam helicity states:

$$\frac{N^{\downarrow\Uparrow}}{Q_b^{\downarrow}} - \frac{N^{\uparrow\Uparrow}}{Q_b^{\uparrow}} = \Delta\sigma(W, Q^2)\mathcal{L}P_bP_t a(W, Q^2), \qquad (1)$$

where Q_b is the time-integrated beam current, $\mathcal{L}$ is the areal density of polarized protons in the target, and $a(W, Q^2)$ accounts for the detector acceptance and efficiency. The product $\mathcal{L}P_bP_t$ was measured directly using elastic scattering on the proton and $a(W, Q^2)$ was determined using a Monte Carlo simulation of the experiment; see the Methods section for details. Examples of our g_1 results on the proton are shown in Fig. 2. The full data set is given in the Supplemental Material. Our results extend the measured Q^2 range down to the pion mass squared (m_π^2), three times smaller than previous data [12, 13], which makes it possible to rigorously test χEFT calculations for spin-dependent observables.

In our study, we utilize sum rules that relate integrals of structure functions to amplitudes calculable by lattice QCD [14] or χEFT, or to known static properties of the target. One such relation is the Gerasimov-Drell-Hearn (GDH) sum rule [15] for real photon absorption ($Q^2 = 0$), which connects the anomalous magnetic moment, κ, of the target particle to the spin-dependent photo-absorption cross section. Experiments have verified the GDH sum rule for the proton within about 7% accuracy [16]. There exist several prescriptions that generalize the GDH sum rule to electron scattering. One often-used generalization is [17]:

$$\Gamma_1(Q^2) \equiv \int_0^{x_0} g_1(x, Q^2)dx = \frac{Q^2}{2M^2} I_1(Q^2), \qquad (2)$$

where $x_0 = Q^2/(W_{thr}^2 - M^2 + Q^2)$ corresponds to the electroproduction threshold $W_{thr} = M + m_\pi$. Equation (2) defines the integral I_1, which is related to the first polarized doubly-virtual Compton scattering (VVCS) amplitude that is calculable in the $\nu \to 0$ limit with lattice QCD or χEFT [3, 18–23]. The other prevailing generalization of the GDH integral is [24]:

$$I_{TT}(Q^2) = \frac{2M^2}{Q^2} \int_0^{x_0} \left[A_1(x, Q^2)F_1(x, Q^2)\right] dx, \quad (3)$$

which can be calculated from both the first and the second spin-dependent VVCS amplitudes in the $\nu \to 0$ limit. The $I_{TT}(Q^2)$ thus obtained can be extrapolated to $Q^2 = 0$ to test the original GDH prediction $I_{TT}(0) = \kappa^2/4$. In this work, we present results on both generalizations.

To form the spin structure integrals in Eqs. (2 & 3), the measured values of g_1 or A_1F_1 were used whenever available from our experiment: The maximum x of the integral, corresponding to $W = 1.15$ GeV, was chosen to limit the background from the elastic radiative tail (see Methods section). The minimum x is determined by the beam energy and the acceptance of CLAS. Contributions from regions at low x (down to $x = 10^{-3}$) and at high x from W_{thr} to $W = 1.15$ GeV were evaluated using a parameterization of previous data [12].

Results on $\Gamma_1(Q^2)$ and $I_{TT}(Q^2)$ are shown in Figs. 3 and 4, respectively. To quantify the degree of agreement between our data and the recent χEFT predictions [22, 23], we computed the χ^2 per degree of freedom between these predictions and our results. We find that the predictions in [22] agree with our results only at the lowest few Q^2 points, up to $Q^2 = 0.024(0.014)$ GeV^2 for Γ_1 (I_{TT}), if we require a

$\chi^2_{\rm reduced} < 2$. On the other hand, the predictions in [23] agree with our data over their full range, with $\chi^2_{\rm reduced} < 2$ up to $Q^2 = 0.3$ GeV^2. The phenomenological models [25–28] agree well with our results for all Q^2 values. The new results on $\Gamma_1(Q^2)$ generally agree with a previous experiment [12] in the overlapping Q^2 region. However, there exist visible differences between our results and the latest spin structure function parameterization [12], indicating that it can be improved with our new data. Extrapolating our results on $I_{TT}(Q^2)$ to

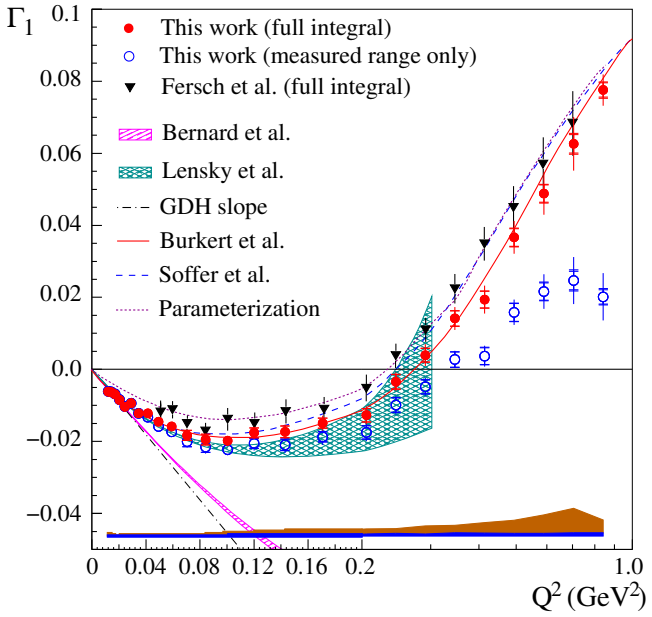

FIG. 3. Results on $\Gamma_1(Q^2)$ for the proton. Integrals over the experimentally covered x range are shown as open blue circles. Full integrals are shown as solid red circles. The inner and the outer error bars (sometimes too small to be seen) are for statistical and total uncertainties, respectively. Results from a previous experiment [12] are shown as solid black triangles. The blue and the brown bands show the experimental and the parameterization uncertainties, respectively. Also shown are the latest χEFT predictions by Bernard *et al.* [22] (magenta band) and Lensky *et al.* [23] (dark cyan band), phenomenological models by Burkert *et al.* [25–27] (red solid curve) and Soffer *et al.* [28] (blue dashed curve), as well as the latest spin structure function parameterization [12] (purple dotted curve). The black dash-dotted line is the slope predicted by the GDH sum rule as $Q^2 \to 0$.

$Q^2 = 0$ yields

$$I_{TT}^{exp}(0) = -0.798 \pm 0.073 \qquad (4)$$

(see details in the Methods section). This result is in good agreement with the GDH sum rule prediction $I_{TT}^{GDH} = -\kappa^2/4 = -0.804(0)$ for the proton and with the experimental photoproduction result $-0.832 \pm 0.023(\text{stat}) \pm 0.063(\text{syst})$ [16]. Our results provide, for the first time, a test of the GDH sum independent from exclusive photoproduction [16].

Predictions from χEFT for $I_{TT}(Q^2)$ and $\Gamma_1(Q^2)$ are constrained at $Q^2 = 0$ by the GDH sum rule. No such constraint is available for $\gamma_0(Q^2)$, the generalized longitudinal

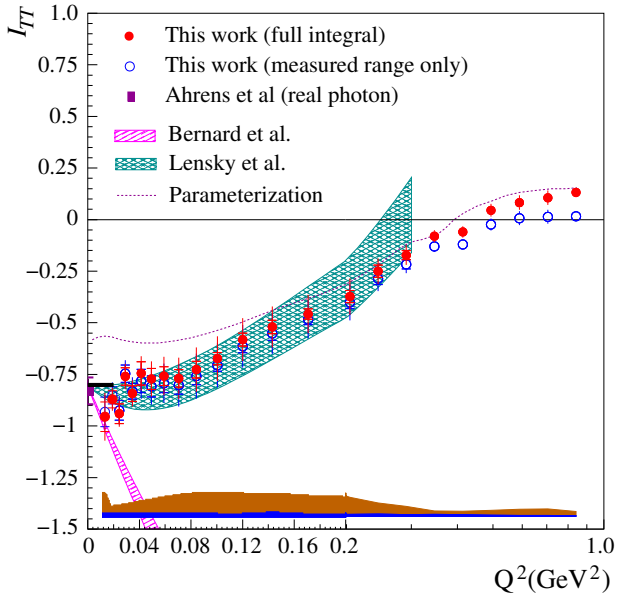

FIG. 4. Results on I_{TT} for the proton, with symbols the same as in Fig. 3. The GDH value is shown as the short horizontal line on the y axis, at $I_{TT}^{GDH} = -0.804$. The experimental photoproduction result [16] is shown as the solid square.

spin polarizability, related by a sum rule to the integral of A_1F_1 [24, 29]:

$$\gamma_0(Q^2) = \frac{16\alpha M^2}{Q^6}\int_0^{x_0} x^2 A_1(x,Q^2)F_1(x,Q^2)dx. \qquad (5)$$

This endows $\gamma_0(Q^2)$ with additional resolving power to test the several theoretical predictions available. Furthermore, the x^2 weighting in Eq. (5) suppresses the low-x contribution. This is beneficial since the low-x region is inaccessible experimentally and must be estimated using models, which introduces model uncertainty. The two integrals I_{TT} and γ_0 have different systematic uncertainties and therefore provide complementary tests of theoretical predictions.

Our results for $\gamma_0(Q^2)$ are shown in Fig. 5. Neither of the new χEFT calculations describes the full data set well: The calculation from Ref. [22] agrees in magnitude (but not in slope) with our lowest Q^2 results up to $Q^2 \approx 0.025$ GeV^2, while the calculation from Ref. [23] describes the shape of our data only above that Q^2 value. Together with the photoproduction data point [16, 30], our data may indicate a strong change in Q^2 slope towards a value consistent with that predicted in Ref. [22] at very low Q^2.

Although the upper bound of the validity domain of χEFT is not known, the kinematic coverage of our data is well within its expected range between $m_\pi^2 \approx 0.02$ GeV^2 and $\Lambda_\chi^2 \approx 1$ GeV^2 with Λ_χ the chiral symmetry breaking scale. The actual validity range depends on the orders of the expansion parameter m_π/Λ_χ at which the calculations are done, the expansion method, and the observable. One reason for the limited success of χEFT in describing our results may be coming from the difficulty to fully account for the Δ reso-

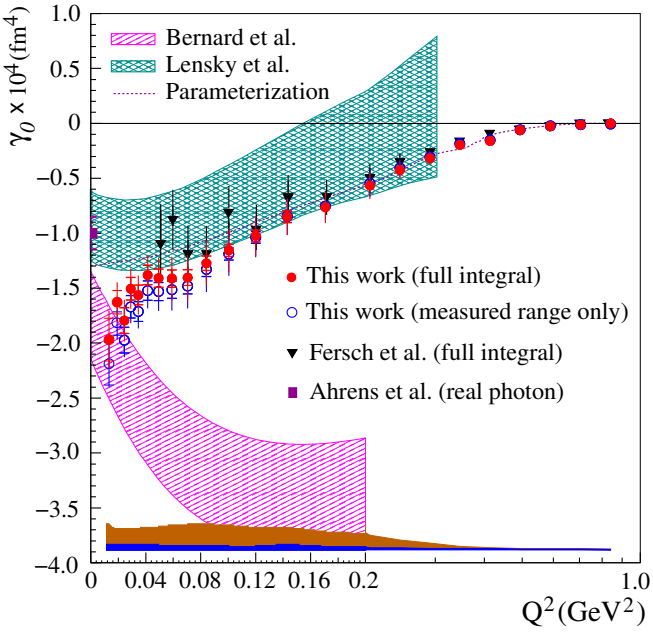

FIG. 5. Results on $\gamma_0(Q^2)$ for the proton, with symbols the same as in Fig. 3. The photoproduction data point [16, 30] is shown as the solid square.

nance, the proton's first excited state. In fact, early χEFT calculations [18, 19] did not explicitly include the Δ excitation, which slows down the convergence of the χEFT perturbation series, or they included it phenomenologically [20, 21]. This was thought to be the reason why many of the early nucleon spin structure function data [13] disagreed with calculations [18–21]. This disagreement prompted refined χEFT calculations [22, 23] and a new experimental program at Jefferson Lab optimized to cover the χEFT domain [31–33], including the measurement reported here. The latest calculations [22, 23] both include the Δ but differ in their expansion method to account for its effect. Ref. [22] treats the nucleon-Δ mass gap δM as a small parameter of the same order as m_π. Ref. [23] uses δM as an intermediate scale such that $\delta M/\Lambda_\chi \approx m_\pi/\delta M$ is used as an expansion parameter to account for the Δ. This latter technique appears to better describe our data on Γ_1 and $I_{TT}(Q^2)$.

In summary, the proton polarized structure functions g_1 and A_1F_1 and their integrals Γ_1, I_{TT} and γ_0 have been measured in the very low Q^2 region, down to 0.012 GeV^2. Our results on $I_{TT}(Q^2)$, when extrapolated to $Q^2 = 0$, agree well with the original GDH sum rule. At non-zero Q^2, they provide precise tests of predictions from χEFT, the leading effective theory for the strong interaction. These tests use for the first time the proton spin degrees of freedom in the Q^2 region where χEFT should be the most applicable. Although it is essential to understand the fundamental forces of nature from first principles, such descriptions are often impractical and one must use effective theories based on the new degrees of freedom that emerge from complexity [34]. Our data show that it remains difficult for χEFT to describe *all* observables in which spin degrees of freedom are explicit. They provide strong incentive for future improvements of calculations using χEFT, the leading approach to the effective theory emerging directly from QCD, and for extending the more fundamental lattice QCD calculations to the spin-dependent structure of the nucleon.

Methods

We used the measured spin difference yields and Eq. (1) to obtain g_1 and A_1F_1 as functions of x and Q^2. We relied on the standard CLAS GEANT-3 Monte Carlo simulation package to fully simulate the spin-dependent yields, including all radiative effects and detector responses. The efficiency of the modified Cherenkov Counter was determined by comparing data taken with only the Electromagnetic Calorimeter in the trigger to those taken with the standard trigger that requires a coincidence between both detectors. The ratio of the latter to the former gave the Cherenkov efficiency. We selected only detector regions of well-understood acceptance in both the data and the simulation. This process fully determined the function $a(W, Q^2)$ in Eq. (1). The product $\mathcal{L}P_bP_t$ in Eq. (1) comes from a comparison of the measured yield difference (l.h.s. of Eq. (1)), integrated over the elastic peak region 0.85 GeV $< W <$ 1.0 GeV, to the simulation of that yield difference using the known electromagnetic form factors of the proton [35].

The polarized cross section $\Delta\sigma(W, Q^2)$ in the simulation was calculated using an event generator for inclusive electron scattering [36] with up-to-date models of structure functions and asymmetries, including near-final data from JLab experiment E08-027 [33]. We extracted our results on g_1 and A_1F_1 by varying our input parameterization for these quantities and finding the required values to make our simulation for the polarized yield agree with data. Corrections for higher-order quantum electromagnetic effects (radiative corrections) were applied in the simulation, of which one effect is the energy tail from elastic scattering (elastic radiative tail).

We propagated the uncertainties on the polarized yields to the final values for g_1 and A_1F_1. Systematic uncertainties were studied by changing model parameters, or other inputs, and re-running the simulation. The overall uncertainty on the normalization of the polarized yield for each beam energy varied from 2% to 5%, dominated by the statistics of the measured elastic peak and the accuracy of the proton elastic form factors [35] that enter into our determination of the product $\mathcal{L}P_bP_t$. Smaller contributions, all less than 1%, came from π^- and e^+e^- backgrounds, and scattering off the slightly polarized ^{15}N in the target. The reconstruction of W has an uncertainty of less than 2 MeV, which was studied by shifting the simulated W spectrum and repeating the extraction. Uncertainties due to trigger and particle reconstruction and identification inefficiencies, as well as parameterizations for the structure functions, $F_{1,2}$ and $A_{1,2}$, were studied by varying them in the simulation. Uncertainties in the radiative corrections were estimated by varying the amount of material the electron passed through in the simulation, and by adjusting the elastic radiative tail within reasonable limits. Despite these corrections, the uncertainties are dominated by statistics.

To extrapolate our results on $I_{TT}(Q^2)$ to $Q^2 = 0$, we

fit our data with a form obeying the Q^2-dependence of the Lensky *et al.* χEFT calculation [23]. We chose the calculation [23] because its Q^2-dependence agrees well with the data. We found the intercept of our fit with the $Q^2 = 0$ axis to be $I_{TT}^{exp}(0) = -0.798 \pm 0.013(\mathrm{uncor}) \pm 0.040(\mathrm{cor}) \pm 0.003(\mathrm{range}) \pm 0.060(\mathrm{th})$. Here, "uncor" and "cor" refer to the experiment point-to-point uncorrelated and correlated uncertainties, respectively; "range" refers to the uncertainty due to the Q^2 range used for the fit. The last contribution, "th", is the propagated theoretical uncertainty from the χEFT calculation. Since the various uncertainties are largely independent, they are added quadratically, giving a total uncertainty of ± 0.073. Our total uncertainty is competitive with that from photoproduction measurements of $I_{TT}(0)$. Our additional extrapolation uncertainty is compensated by the fact that inclusive electroproduction automatically sums over all reaction channels, removing uncertainties associated with the detection of final states needed in photoproduction.

Data availability Experimental data that support the findings of this study will be posted on the CLAS database, https://clasweb.jlab.org/physicsdb/, or are available from X. Zheng upon request.

Code availability The computer codes that support the plots within this paper and the findings of this study are available from X. Zheng upon request.

Author contributions The members of the Jefferson Lab CLAS Collaboration constructed and operated the experimental equipment used in this experiment. A large number of collaboration members participated in the data collection. The following authors provided various contributions to the experiment design and commissioning, data processing, data analysis and Monte Carlo simulations: M. Battaglieri, R. De Vita, V. Drozdov, L. El Fassi, H. Kang, K. Kovacs, E. Long, M. Osipenko, S. Phillips, K. Slifer. The authors who performed the final data analysis and Monte Carlo simulations were A. Deur, S.E. Kuhn, M. Ripani, J. Zhang, and X. Zheng. The manuscript was reviewed by the entire CLAS collaboration before publication, and all authors approved the final version of the manuscript.

Competing interests The authors declare no competing interests.

Additional information
Supplementary information are available online that includes all numerical results reported here.
Correspondence and requests for materials should be addressed to A. Deur.
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I. SUPPLEMENTAL MATERIAL – TABLE FOR RESULTS ON MOMENTS

Results for Γ_1^p, I_{TT}^p and γ_0^p, for the measured and the full ranges, along with their statistical and systematic uncertainties, are shown in the table below. For Figs. 4 and 5 of the main article, the four lowest Q^2 bins were combined into two for visual clarity.

Q^2 (GeV^2)	Γ_1^{data}	Γ_1^{full}	Stat.	Syst.	I_{TT}^{data}	I_{TT}^{full}	Stat.	Syst.	γ_0^{data}	γ_0^{full}	Stat.	Syst.
0.01200	-0.00606	-0.00615	0.00067	0.00060	-1.00582	-1.02906	0.10882	0.09780	-2.47405	-2.24818	0.29260	0.19167
0.01430	-0.00621	-0.00631	0.00068	0.00061	-0.87546	-0.89909	0.09502	0.08632	-1.96056	-1.74642	0.26029	0.17095
0.01708	-0.00684	-0.00695	0.00056	0.00020	-0.82468	-0.84534	0.06627	0.03565	-1.72448	-1.52370	0.17821	0.14287
0.02042	-0.00839	-0.00848	0.00053	0.00021	-0.86917	-0.88748	0.05322	0.03746	-1.87527	-1.68530	0.13228	0.14971
0.02436	-0.01034	-0.01041	0.00056	0.00026	-0.92459	-0.94052	0.04794	0.04096	-1.97332	-1.79514	0.11755	0.14808
0.02904	-0.00939	-0.00942	0.00057	0.00023	-0.74663	-0.75999	0.04243	0.04423	-1.66956	-1.50446	0.10261	0.15216
0.03466	-0.01223	-0.01222	0.00059	0.00027	-0.83188	-0.84289	0.03793	0.05111	-1.71235	-1.56216	0.09042	0.15319
0.04139	-0.01330	-0.01219	0.00119	0.00029	-0.78198	-0.74516	0.05675	0.06003	-1.52151	-1.38013	0.08881	0.15918
0.04940	-0.01580	-0.01452	0.00125	0.00029	-0.80819	-0.77233	0.05130	0.06886	-1.53158	-1.40976	0.08275	0.16844
0.05902	-0.01734	-0.01585	0.00126	0.00033	-0.79260	-0.75820	0.04572	0.08078	-1.51354	-1.41314	0.07896	0.18236
0.07047	-0.02007	-0.01832	0.00139	0.00038	-0.80305	-0.76970	0.04306	0.09128	-1.48134	-1.40324	0.07218	0.19327
0.08412	-0.02153	-0.01949	0.00151	0.00048	-0.75899	-0.72679	0.04065	0.09988	-1.32838	-1.27278	0.06609	0.19773
0.10054	-0.02225	-0.01978	0.00114	0.00082	-0.70545	-0.67357	0.02990	0.10381	-1.18781	-1.15468	0.05551	0.19272
0.12004	-0.02057	-0.01760	0.00137	0.00097	-0.61338	-0.58177	0.03149	0.09889	-1.03759	-1.02438	0.05450	0.17324
0.14295	-0.02094	-0.01733	0.00162	0.00117	-0.55224	-0.52006	0.03263	0.09423	-0.84772	-0.84995	0.05461	0.15771
0.17080	-0.01870	-0.01493	0.00143	0.00145	-0.48370	-0.45770	0.02516	0.08985	-0.75206	-0.76529	0.03745	0.13620
0.20421	-0.01750	-0.01274	0.00188	0.00151	-0.40164	-0.37302	0.02981	0.08304	-0.54667	-0.56500	0.04026	0.11746
0.24355	-0.00989	-0.00342	0.00205	0.00149	-0.28522	-0.24978	0.03004	0.05469	-0.40617	-0.42440	0.04118	0.07387
0.29038	-0.00484	0.00394	0.00196	0.00227	-0.21676	-0.17225	0.02240	0.04132	-0.30540	-0.31800	0.02417	0.05353
0.34662	0.00274	0.01414	0.00218	0.00228	-0.12949	-0.08033	0.02177	0.01918	-0.18437	-0.19751	0.02091	0.02428
0.41389	0.00368	0.01938	0.00243	0.00299	-0.12080	-0.05993	0.02064	0.01856	-0.15301	-0.15964	0.01668	0.01485
0.49404	0.01583	0.03663	0.00260	0.00373	-0.02454	0.04532	0.01870	0.02476	-0.05744	-0.06060	0.01303	0.00869
0.59017	0.02162	0.04879	0.00261	0.00524	0.00671	0.08231	0.01535	0.03136	-0.02282	-0.02647	0.00861	0.00962
0.70473	0.02468	0.06261	0.00293	0.00684	0.01382	0.10601	0.01575	0.03110	-0.01283	-0.01191	0.00840	0.00785
0.84121	0.02014	0.07757	0.00227	0.00370	0.01567	0.13133	0.00870	0.02078	-0.00562	-0.00166	0.00285	0.00447

II. SUPPLEMENTAL MATERIAL – TABLE FOR RESULTS ON g_1^p AND $A_1^p F_1^p$

Results for g_1^p and $A_1^p F_1^p$, along with their statistical and systematic uncertainties, are shown in the table below.

Q^2 (GeV^2)	W (GeV)	g_1	Stat.	Syst.	A_1F_1	Stat.	Syst.
0.0120	1.11	0.1153	0.0898	0.0133	0.1448	0.1203	0.0172
0.0120	1.13	-0.0852	0.1148	0.0212	-0.1189	0.1441	0.0262
0.0120	1.15	-0.1076	0.1197	0.0215	-0.1458	0.1438	0.0272
0.0120	1.17	-0.2045	0.1168	0.0208	-0.2479	0.1368	0.0270
0.0120	1.19	-0.7447	0.1360	0.0381	-0.8537	0.1554	0.0472
0.0120	1.21	-0.6129	0.1437	0.0344	-0.6873	0.1610	0.0436
0.0120	1.23	-0.9118	0.1399	0.0365	-1.0070	0.1541	0.0435
0.0120	1.25	-0.5379	0.1361	0.0467	-0.5884	0.1482	0.0523
0.0120	1.27	-0.1995	0.1337	0.0283	-0.2193	0.1440	0.0315
0.0120	1.29	-0.1259	0.1405	0.0247	-0.1382	0.1500	0.0269
0.0120	1.31	-0.3156	0.1331	0.0381	-0.3385	0.1409	0.0407
0.0120	1.33	0.2404	0.1339	0.0452	0.2482	0.1410	0.0477
0.0120	1.35	-0.1214	0.1509	0.0529	-0.1320	0.1580	0.0554
0.0120	1.37	0.1028	0.1634	0.0409	0.1010	0.1703	0.0427
0.0120	1.39	-0.1766	0.1855	0.0368	-0.1896	0.1925	0.0383
0.0120	1.41	0.0515	0.2063	0.0206	0.0462	0.2134	0.0213
0.0120	1.43	-0.3190	0.2273	0.0192	-0.3367	0.2343	0.0197
0.0120	1.45	-0.2744	0.2501	0.0450	-0.2908	0.2571	0.0464
0.0120	1.47	-0.1152	0.4667	0.1508	-0.1274	0.4793	0.1566
0.0143	1.11	0.1091	0.0844	0.0219	0.1390	0.1151	0.0313
0.0143	1.13	0.0561	0.0827	0.0214	0.0570	0.1071	0.0275
0.0143	1.15	-0.0690	0.0976	0.0201	-0.0985	0.1212	0.0258
0.0143	1.17	-0.1340	0.1082	0.0171	-0.1727	0.1294	0.0247
0.0143	1.19	-0.6508	0.1204	0.0282	-0.7613	0.1403	0.0387
0.0143	1.21	-0.5459	0.1174	0.0148	-0.6225	0.1337	0.0276
0.0143	1.23	-0.6451	0.1186	0.0373	-0.7228	0.1328	0.0461
0.0143	1.25	-0.5244	0.1153	0.0322	-0.5812	0.1272	0.0374
0.0143	1.27	-0.3578	0.1144	0.0283	-0.3944	0.1246	0.0319
0.0143	1.29	-0.2838	0.1176	0.0320	-0.3119	0.1268	0.0348
0.0143	1.31	-0.0405	0.1022	0.0328	-0.0487	0.1092	0.0353
0.0143	1.33	-0.1098	0.1175	0.0385	-0.1224	0.1248	0.0409
0.0143	1.35	0.0208	0.1271	0.0512	0.0153	0.1340	0.0540
0.0143	1.37	-0.0860	0.1299	0.0591	-0.0964	0.1362	0.0621
0.0143	1.39	-0.1873	0.1445	0.0923	-0.2029	0.1509	0.0961
0.0143	1.41	-0.1224	0.1575	0.0289	-0.1354	0.1638	0.0301
0.0143	1.43	-0.0590	0.1906	0.0257	-0.0705	0.1975	0.0265
0.0143	1.45	-0.3219	0.2353	0.0399	-0.3423	0.2431	0.0410
0.0143	1.47	0.4224	0.4273	0.2431	0.4251	0.4408	0.2469
0.0171	1.11	0.1259	0.0721	0.0539	0.1718	0.1046	0.0792
0.0171	1.13	0.1331	0.0771	0.0109	0.1591	0.1047	0.0151
0.0171	1.15	-0.0461	0.0768	0.0189	-0.0760	0.0982	0.0254
0.0171	1.17	-0.2085	0.0747	0.0333	-0.2704	0.0922	0.0443

0.0171	1.19	-0.4065	0.0771	0.0324	-0.4909	0.0922	0.0455
0.0171	1.21	-0.5102	0.0771	0.0268	-0.5967	0.0899	0.0402
0.0171	1.23	-0.5900	0.0762	0.0279	-0.6754	0.0870	0.0385
0.0171	1.25	-0.3932	0.0667	0.0237	-0.4453	0.0749	0.0301
0.0171	1.27	-0.2814	0.0650	0.0310	-0.3175	0.0720	0.0356
0.0171	1.29	-0.0565	0.0648	0.0290	-0.0682	0.0709	0.0324
0.0171	1.31	-0.1017	0.0661	0.0358	-0.1164	0.0716	0.0391
0.0171	1.33	0.0499	0.0650	0.0462	0.0464	0.0698	0.0497
0.0171	1.35	-0.0838	0.0719	0.0525	-0.0964	0.0766	0.0559
0.0171	1.37	0.0018	0.0738	0.0503	-0.0059	0.0781	0.0532
0.0171	1.39	0.0320	0.0799	0.0463	0.0246	0.0841	0.0487
0.0171	1.41	-0.2133	0.0864	0.0226	-0.2335	0.0905	0.0236
0.0171	1.43	-0.1981	0.0960	0.0206	-0.2179	0.1002	0.0213
0.0171	1.45	-0.4159	0.1091	0.0510	-0.4445	0.1134	0.0528
0.0171	1.47	-0.1285	0.1298	0.0444	-0.1461	0.1345	0.0460
0.0171	1.49	-0.2322	0.1456	0.0629	-0.2520	0.1504	0.0649
0.0171	1.51	-0.2287	0.1405	0.0771	-0.2455	0.1447	0.0793
0.0171	1.53	-0.1087	0.1522	0.0505	-0.1201	0.1564	0.0518
0.0171	1.55	-0.1533	0.1601	0.0312	-0.1649	0.1642	0.0318
0.0171	1.57	-0.0938	0.1988	0.0597	-0.1024	0.2035	0.0612
0.0171	1.59	-0.3387	0.1982	0.0651	-0.3510	0.2025	0.0666
0.0171	1.61	-0.3265	0.2241	0.0810	-0.3367	0.2287	0.0827
0.0171	1.63	-0.1644	0.2974	0.2390	-0.1700	0.3031	0.2442
0.0204	1.11	0.0929	0.0465	0.0214	0.1289	0.0705	0.0348
0.0204	1.13	-0.0796	0.0473	0.0252	-0.1326	0.0664	0.0346
0.0204	1.15	-0.0617	0.0521	0.0243	-0.1021	0.0695	0.0336
0.0204	1.17	-0.2465	0.0547	0.0342	-0.3262	0.0696	0.0470
0.0204	1.19	-0.4332	0.0565	0.0320	-0.5379	0.0694	0.0470
0.0204	1.21	-0.5911	0.0577	0.0220	-0.7074	0.0689	0.0379
0.0204	1.23	-0.5520	0.0578	0.0363	-0.6462	0.0675	0.0482
0.0204	1.25	-0.3369	0.0581	0.0355	-0.3904	0.0665	0.0438
0.0204	1.27	-0.2823	0.0593	0.0321	-0.3245	0.0668	0.0375
0.0204	1.29	-0.1272	0.0602	0.0266	-0.1485	0.0668	0.0306
0.0204	1.31	0.0060	0.0598	0.0341	-0.0013	0.0656	0.0378
0.0204	1.33	-0.0257	0.0627	0.0596	-0.0361	0.0681	0.0649
0.0204	1.35	-0.0604	0.0667	0.0606	-0.0740	0.0718	0.0654
0.0204	1.37	-0.1366	0.0711	0.0507	-0.1557	0.0760	0.0543
0.0204	1.39	-0.0007	0.0769	0.0263	-0.0114	0.0817	0.0278
0.0204	1.41	-0.1056	0.0794	0.0332	-0.1234	0.0838	0.0350
0.0204	1.43	-0.2365	0.0883	0.0144	-0.2615	0.0928	0.0148
0.0204	1.45	-0.1943	0.0926	0.0265	-0.2174	0.0969	0.0274
0.0204	1.47	-0.1228	0.1079	0.0533	-0.1434	0.1125	0.0552
0.0204	1.49	-0.2053	0.1203	0.0717	-0.2275	0.1249	0.0743
0.0204	1.51	-0.3126	0.1282	0.0822	-0.3352	0.1328	0.0850
0.0204	1.53	-0.2543	0.1413	0.0640	-0.2726	0.1459	0.0660
0.0204	1.55	-0.3135	0.1496	0.0245	-0.3318	0.1541	0.0248
0.0204	1.57	-0.0860	0.1609	0.0526	-0.0958	0.1653	0.0540
0.0204	1.59	-0.0985	0.1705	0.0587	-0.1068	0.1749	0.0602
0.0204	1.61	0.1524	0.2103	0.0571	0.1518	0.2154	0.0586
0.0204	1.63	-0.5232	0.2762	0.2099	-0.5380	0.2824	0.2156
0.0244	1.11	0.0048	0.0339	0.0090	-0.0105	0.0541	0.0142
0.0244	1.13	0.0590	0.0366	0.0141	0.0633	0.0542	0.0199
0.0244	1.15	-0.0939	0.0441	0.0226	-0.1552	0.0615	0.0332
0.0244	1.17	-0.2115	0.0478	0.0329	-0.2937	0.0632	0.0477
0.0244	1.19	-0.4040	0.0507	0.0263	-0.5193	0.0645	0.0440
0.0244	1.21	-0.5645	0.0521	0.0181	-0.6941	0.0641	0.0369
0.0244	1.23	-0.5951	0.0522	0.0335	-0.7155	0.0626	0.0478
0.0244	1.25	-0.4508	0.0538	0.0442	-0.5339	0.0631	0.0555
0.0244	1.27	-0.3178	0.0536	0.0304	-0.3732	0.0616	0.0368
0.0244	1.29	-0.1447	0.0545	0.0340	-0.1724	0.0616	0.0393
0.0244	1.31	-0.1045	0.0552	0.0325	-0.1259	0.0616	0.0367
0.0244	1.33	0.0101	0.0580	0.0424	0.0006	0.0639	0.0469
0.0244	1.35	-0.0951	0.0586	0.0526	-0.1144	0.0640	0.0574
0.0244	1.37	-0.0287	0.0574	0.0509	-0.0425	0.0621	0.0551
0.0244	1.39	-0.0242	0.0599	0.0421	-0.0387	0.0643	0.0452
0.0244	1.41	-0.1948	0.0672	0.0261	-0.2220	0.0716	0.0278
0.0244	1.43	-0.1913	0.0729	0.0326	-0.2187	0.0773	0.0344
0.0244	1.45	-0.2158	0.0804	0.0170	-0.2448	0.0849	0.0173
0.0244	1.47	-0.1020	0.1029	0.0353	-0.1255	0.1081	0.0362
0.0244	1.49	-0.2736	0.1121	0.0688	-0.3032	0.1172	0.0717
0.0244	1.51	-0.1202	0.1220	0.0557	-0.1388	0.1272	0.0577
0.0244	1.53	-0.3085	0.1334	0.0393	-0.3325	0.1385	0.0403
0.0244	1.55	-0.2843	0.1386	0.0273	-0.3049	0.1435	0.0279
0.0244	1.57	-0.0889	0.1412	0.0765	-0.1008	0.1458	0.0790
0.0244	1.59	0.0180	0.1506	0.0530	0.0116	0.1552	0.0546
0.0244	1.61	-0.1934	0.1734	0.0436	-0.2041	0.1783	0.0449
0.0244	1.63	-0.2430	0.2361	0.2025	-0.2534	0.2424	0.2090
0.0290	1.11	0.0746	0.0316	0.0285	0.1071	0.0540	0.0478
0.0290	1.13	0.0424	0.0360	0.0101	0.0400	0.0564	0.0174
0.0290	1.15	-0.0569	0.0384	0.0170	-0.1089	0.0563	0.0273
0.0290	1.17	-0.2603	0.0421	0.0353	-0.3779	0.0580	0.0534
0.0290	1.19	-0.3522	0.0441	0.0276	-0.4729	0.0584	0.0486
0.0290	1.21	-0.4538	0.0448	0.0203	-0.5787	0.0571	0.0428
0.0290	1.23	-0.5139	0.0453	0.0321	-0.6371	0.0561	0.0501
0.0290	1.25	-0.3849	0.0462	0.0325	-0.4708	0.0557	0.0451
0.0290	1.27	-0.2118	0.0467	0.0253	-0.2590	0.0550	0.0328
0.0290	1.29	-0.0935	0.0454	0.0276	-0.1189	0.0525	0.0332
0.0290	1.31	-0.0405	0.0455	0.0288	-0.0577	0.0518	0.0334
0.0290	1.33	0.0120	0.0452	0.0393	0.0013	0.0507	0.0443
0.0290	1.35	-0.0471	0.0461	0.0461	-0.0651	0.0511	0.0512
0.0290	1.37	-0.0565	0.0486	0.0453	-0.0762	0.0534	0.0498
0.0290	1.39	-0.0259	0.0525	0.0298	-0.0437	0.0571	0.0324
0.0290	1.41	-0.0642	0.0564	0.0281	-0.0864	0.0609	0.0303
0.0290	1.43	-0.0419	0.0622	0.0322	-0.0637	0.0667	0.0343
0.0290	1.45	-0.1512	0.0681	0.0234	-0.1818	0.0726	0.0250
0.0290	1.47	-0.1289	0.1001	0.0207	-0.1586	0.1062	0.0204
0.0290	1.49	-0.1074	0.1084	0.0423	-0.1336	0.1144	0.0439
0.0290	1.51	-0.1740	0.1183	0.0633	-0.1995	0.1243	0.0661
0.0290	1.53	-0.0966	0.1168	0.0177	-0.1154	0.1221	0.0172
0.0290	1.55	-0.2230	0.1138	0.0291	-0.2453	0.1187	0.0297
0.0290	1.57	0.1038	0.1260	0.0424	0.0968	0.1309	0.0438
0.0290	1.59	0.2003	0.1483	0.0465	0.1989	0.1538	0.0482
0.0290	1.61	-0.0822	0.1627	0.0342	-0.0915	0.1682	0.0354
0.0290	1.63	-0.0832	0.2085	0.1189	-0.0907	0.2152	0.1241
0.0347	1.11	0.0035	0.0263	0.0191	-0.0184	0.0482	0.0354
0.0347	1.13	0.0571	0.0294	0.0141	0.0630	0.0489	0.0242
0.0347	1.15	-0.0513	0.0326	0.0197	-0.1085	0.0503	0.0331
0.0347	1.17	-0.2055	0.0360	0.0291	-0.3175	0.0523	0.0489
0.0347	1.19	-0.3499	0.0399	0.0276	-0.4895	0.0551	0.0544
0.0347	1.21	-0.5783	0.0421	0.0305	-0.7674	0.0559	0.0595
0.0347	1.23	-0.5092	0.0438	0.0311	-0.6551	0.0560	0.0542
0.0347	1.25	-0.3468	0.0434	0.0343	-0.4388	0.0540	0.0497
0.0347	1.27	-0.2146	0.0417	0.0233	-0.2710	0.0505	0.0330
0.0347	1.29	-0.1321	0.0401	0.0234	-0.1700	0.0475	0.0298
0.0347	1.31	-0.0021	0.0403	0.0285	-0.0167	0.0470	0.0339
0.0347	1.33	-0.0541	0.0399	0.0362	-0.0769	0.0457	0.0418
0.0347	1.35	-0.0418	0.0423	0.0375	-0.0629	0.0479	0.0426
0.0347	1.37	0.0006	0.0461	0.0356	-0.0164	0.0515	0.0398
0.0347	1.39	-0.0828	0.0495	0.0202	-0.1101	0.0547	0.0225
0.0347	1.41	-0.1374	0.0512	0.0139	-0.1712	0.0560	0.0151
0.0347	1.43	-0.1634	0.0544	0.0159	-0.2006	0.0591	0.0168
0.0347	1.45	-0.0992	0.0569	0.0239	-0.1318	0.0614	0.0258
0.0347	1.47	-0.3347	0.0884	0.0347	-0.3848	0.0948	0.0362
0.0347	1.49	-0.2654	0.0935	0.0514	-0.3071	0.0997	0.0540
0.0347	1.51	-0.2745	0.0904	0.0419	-0.3108	0.0958	0.0437
0.0347	1.53	-0.0791	0.0878	0.0139	-0.1007	0.0926	0.0124

0.0347	1.55	-0.1565	0.0951	0.0225	-0.1799	0.1000	0.0225
0.0347	1.57	-0.0460	0.1026	0.0323	-0.0614	0.1075	0.0333
0.0347	1.59	-0.0349	0.1079	0.0329	-0.0470	0.1127	0.0341
0.0347	1.61	-0.0626	0.1268	0.0313	-0.0732	0.1320	0.0326
0.0347	1.63	-0.3217	0.2074	0.2346	-0.3405	0.2155	0.2461
0.0414	1.11	0.0556	0.0231	0.0101	0.0833	0.0446	0.0189
0.0414	1.13	0.0371	0.0260	0.0077	0.0331	0.0460	0.0151
0.0414	1.15	-0.0549	0.0324	0.0204	-0.1196	0.0526	0.0370
0.0414	1.17	-0.1141	0.0355	0.0233	-0.1930	0.0539	0.0458
0.0414	1.19	-0.3947	0.0396	0.0379	-0.5759	0.0569	0.0707
0.0414	1.21	-0.5661	0.0420	0.0219	-0.7773	0.0577	0.0574
0.0414	1.23	-0.4293	0.0418	0.0254	-0.5699	0.0552	0.0543
0.0414	1.25	-0.3368	0.0411	0.0304	-0.4403	0.0526	0.0494
0.0414	1.27	-0.2229	0.0388	0.0248	-0.2906	0.0483	0.0362
0.0414	1.29	-0.1326	0.0389	0.0251	-0.1768	0.0473	0.0334
0.0414	1.31	-0.0731	0.0376	0.0276	-0.1034	0.0446	0.0343
0.0414	1.33	-0.0107	0.0375	0.0340	-0.0295	0.0438	0.0403
0.0414	1.35	-0.0256	0.0392	0.0353	-0.0480	0.0452	0.0408
0.0414	1.37	-0.0029	0.0417	0.0362	-0.0229	0.0473	0.0413
0.0414	1.39	-0.0351	0.0424	0.0210	-0.0615	0.0475	0.0237
0.0414	1.41	-0.0898	0.0462	0.0223	-0.1237	0.0513	0.0249
0.0414	1.43	-0.1620	0.0508	0.0254	-0.2048	0.0559	0.0275
0.0414	1.45	-0.1030	0.0596	0.0191	-0.1411	0.0651	0.0205
0.0414	1.47	-0.1999	0.0742	0.0204	-0.2468	0.0804	0.0195
0.0414	1.49	-0.2881	0.0753	0.0407	-0.3383	0.0810	0.0424
0.0414	1.51	-0.1985	0.0766	0.0338	-0.2356	0.0819	0.0350
0.0414	1.53	-0.0414	0.0776	0.0213	-0.0643	0.0827	0.0208
0.0414	1.55	-0.0734	0.0854	0.0182	-0.0960	0.0905	0.0172
0.0414	1.57	-0.1163	0.0942	0.0348	-0.1382	0.0993	0.0363
0.0414	1.59	-0.1748	0.1012	0.0389	-0.1966	0.1064	0.0406
0.0414	1.61	0.0182	0.1108	0.0400	0.0094	0.1161	0.0417
0.0414	1.63	0.1023	0.1298	0.0652	0.0994	0.1357	0.0712
0.0414	1.65	-0.3387	0.3126	0.0220	-0.3584	0.3255	0.0233
0.0414	1.67	-0.2747	0.3517	0.0201	-0.2895	0.3651	0.0214
0.0414	1.69	-0.2761	0.3294	0.0175	-0.2887	0.3411	0.0188
0.0414	1.71	-0.2143	0.3417	0.0174	-0.2230	0.3532	0.0186
0.0414	1.73	-0.1068	0.3862	0.0170	-0.1108	0.3982	0.0188
0.0414	1.75	-0.1879	0.3519	0.0162	-0.1934	0.3622	0.0172
0.0414	1.77	-0.3166	0.3877	0.0226	-0.3250	0.3984	0.0241
0.0414	1.79	0.0360	0.3978	0.0131	0.0382	0.4081	0.0130
0.0414	1.81	0.2740	0.4573	0.0242	0.2820	0.4685	0.0254
0.0414	1.83	-0.2080	0.5149	0.0184	-0.2105	0.5268	0.0191
0.0414	1.85	0.6223	0.5691	0.0400	0.6377	0.5815	0.0407
0.0414	1.87	0.0826	0.6689	0.0349	0.0863	0.6827	0.0357
0.0414	1.89	0.6719	0.7601	0.0956	0.6870	0.7748	0.0977
0.0414	1.91	-0.1073	0.7728	0.0424	-0.1071	0.7871	0.0427
0.0414	1.93	0.0510	1.1112	0.1371	0.0543	1.1309	0.1393
0.0494	1.11	0.0516	0.0211	0.0101	0.0826	0.0443	0.0222
0.0494	1.13	0.0330	0.0276	0.0114	0.0268	0.0518	0.0237
0.0494	1.15	-0.0136	0.0311	0.0159	-0.0572	0.0533	0.0337
0.0494	1.17	-0.2000	0.0338	0.0253	-0.3418	0.0540	0.0541
0.0494	1.19	-0.3543	0.0373	0.0279	-0.5399	0.0563	0.0680
0.0494	1.21	-0.5276	0.0386	0.0183	-0.7553	0.0554	0.0634
0.0494	1.23	-0.4116	0.0388	0.0252	-0.5683	0.0532	0.0608
0.0494	1.25	-0.3286	0.0374	0.0267	-0.4457	0.0496	0.0484
0.0494	1.27	-0.1831	0.0362	0.0228	-0.2509	0.0466	0.0373
0.0494	1.29	-0.1123	0.0349	0.0225	-0.1585	0.0437	0.0325
0.0494	1.31	-0.0328	0.0344	0.0248	-0.0597	0.0420	0.0324
0.0494	1.33	-0.0185	0.0346	0.0304	-0.0430	0.0414	0.0374
0.0494	1.35	-0.0055	0.0362	0.0304	-0.0285	0.0427	0.0365
0.0494	1.37	-0.0602	0.0379	0.0300	-0.0932	0.0439	0.0351
0.0494	1.39	0.0491	0.0394	0.0194	0.0301	0.0450	0.0226
0.0494	1.41	0.0019	0.0420	0.0194	-0.0262	0.0475	0.0222
0.0494	1.43	-0.0778	0.0467	0.0098	-0.1181	0.0522	0.0104
0.0494	1.45	-0.0128	0.0496	0.0192	-0.0476	0.0550	0.0212
0.0494	1.47	-0.1383	0.0638	0.0321	-0.1876	0.0701	0.0331
0.0494	1.49	-0.0466	0.0678	0.0222	-0.0842	0.0739	0.0206
0.0494	1.51	-0.1731	0.0705	0.0299	-0.2146	0.0763	0.0304
0.0494	1.53	-0.0351	0.0713	0.0162	-0.0617	0.0768	0.0140
0.0494	1.55	-0.1430	0.0769	0.0241	-0.1745	0.0823	0.0239
0.0494	1.57	-0.0957	0.0824	0.0213	-0.1206	0.0877	0.0215
0.0494	1.59	-0.0628	0.0869	0.0206	-0.0819	0.0921	0.0212
0.0494	1.61	-0.0914	0.0929	0.0524	-0.1087	0.0982	0.0555
0.0494	1.63	-0.0987	0.1395	0.0869	-0.1134	0.1470	0.0927
0.0494	1.65	0.2635	0.3060	0.0238	0.2689	0.3208	0.0252
0.0494	1.67	-1.1189	0.3091	0.0556	-1.1749	0.3231	0.0583
0.0494	1.69	-0.1953	0.3126	0.0147	-0.2075	0.3258	0.0161
0.0494	1.71	-0.7801	0.3010	0.0585	-0.8133	0.3130	0.0610
0.0494	1.73	0.0237	0.3118	0.0163	0.0235	0.3234	0.0175
0.0494	1.75	0.0538	0.3405	0.0235	0.0555	0.3524	0.0249
0.0494	1.77	-0.5169	0.3834	0.0438	-0.5336	0.3959	0.0456
0.0494	1.79	-0.8044	0.4026	0.0602	-0.8279	0.4150	0.0624
0.0494	1.81	-0.1367	0.4335	0.0416	-0.1389	0.4460	0.0432
0.0494	1.83	-0.1735	0.4333	0.0126	-0.1765	0.4452	0.0144
0.0494	1.85	-0.2486	0.5147	0.0265	-0.2532	0.5279	0.0265
0.0494	1.87	0.4075	0.5510	0.0522	0.4193	0.5644	0.0538
0.0494	1.89	1.0628	0.5581	0.1260	1.0896	0.5710	0.1289
0.0494	1.91	-0.4455	0.5822	0.0493	-0.4528	0.5950	0.0499
0.0494	1.93	0.0820	1.0305	0.1169	0.0864	1.0521	0.1182
0.0590	1.11	0.0385	0.0199	0.0073	0.0597	0.0450	0.0160
0.0590	1.13	0.0085	0.0253	0.0139	-0.0199	0.0512	0.0281
0.0590	1.15	-0.0345	0.0303	0.0155	-0.0987	0.0554	0.0382
0.0590	1.17	-0.2041	0.0325	0.0311	-0.3687	0.0551	0.0701
0.0590	1.19	-0.3548	0.0343	0.0286	-0.5707	0.0546	0.0734
0.0590	1.21	-0.5333	0.0380	0.0194	-0.8014	0.0573	0.0778
0.0590	1.23	-0.4324	0.0373	0.0301	-0.6243	0.0536	0.0718
0.0590	1.25	-0.2860	0.0364	0.0262	-0.4069	0.0502	0.0561
0.0590	1.27	-0.1842	0.0344	0.0274	-0.2635	0.0458	0.0472
0.0590	1.29	-0.0789	0.0326	0.0202	-0.1239	0.0423	0.0328
0.0590	1.31	-0.0681	0.0317	0.0234	-0.1084	0.0400	0.0332
0.0590	1.33	-0.0049	0.0318	0.0241	-0.0305	0.0393	0.0315
0.0590	1.35	0.0028	0.0343	0.0250	-0.0222	0.0415	0.0316
0.0590	1.37	-0.0394	0.0354	0.0231	-0.0745	0.0421	0.0286
0.0590	1.39	-0.0428	0.0361	0.0183	-0.0804	0.0422	0.0224
0.0590	1.41	0.0371	0.0374	0.0268	0.0093	0.0432	0.0314
0.0590	1.43	-0.0722	0.0400	0.0106	-0.1187	0.0457	0.0120
0.0590	1.45	-0.1363	0.0486	0.0200	-0.1936	0.0549	0.0230
0.0590	1.47	-0.0907	0.0596	0.0182	-0.1431	0.0666	0.0148
0.0590	1.49	-0.0031	0.0619	0.0209	-0.0429	0.0685	0.0180
0.0590	1.51	-0.0758	0.0648	0.0239	-0.1153	0.0712	0.0232
0.0590	1.53	-0.0623	0.0684	0.0161	-0.0964	0.0747	0.0128
0.0590	1.55	-0.1664	0.0695	0.0190	-0.2058	0.0753	0.0174
0.0590	1.57	-0.0736	0.0723	0.0193	-0.1020	0.0779	0.0188
0.0590	1.59	-0.0137	0.0765	0.0498	-0.0332	0.0820	0.0530
0.0590	1.61	-0.0261	0.0799	0.0194	-0.0425	0.0853	0.0206
0.0590	1.63	-0.0420	0.1060	0.0380	-0.0570	0.1128	0.0354
0.0590	1.65	-0.0850	0.2472	0.0096	-0.0989	0.2615	0.0110
0.0590	1.67	-0.2282	0.2664	0.0111	-0.2473	0.2808	0.0129
0.0590	1.69	-0.4068	0.2565	0.0231	-0.4323	0.2694	0.0248
0.0590	1.71	-0.0811	0.2952	0.0133	-0.0883	0.3093	0.0150
0.0590	1.73	-0.0946	0.3167	0.0157	-0.1007	0.3306	0.0165
0.0590	1.75	0.1503	0.2917	0.0212	0.1558	0.3038	0.0226
0.0590	1.77	-0.2184	0.3042	0.0303	-0.2271	0.3160	0.0319
0.0590	1.79	0.0961	0.3099	0.0266	0.1007	0.3213	0.0269
0.0590	1.81	0.4687	0.3527	0.0501	0.4862	0.3650	0.0519
0.0590	1.83	-0.3018	0.3622	0.0186	-0.3101	0.3740	0.0192
0.0590	1.85	0.0556	0.4021	0.0260	0.0594	0.4145	0.0260

0.0590	1.87	-0.5582	0.4345	0.0345	-0.5723	0.4472	0.0348
0.0590	1.89	-0.3233	0.4349	0.0524	-0.3301	0.4468	0.0535
0.0590	1.91	-0.2881	0.4683	0.0363	-0.2933	0.4806	0.0357
0.0590	1.93	-0.3191	0.8392	0.2951	-0.3247	0.8606	0.3017
0.0705	1.11	0.0053	0.0219	0.0135	-0.0180	0.0512	0.0323
0.0705	1.13	-0.0409	0.0232	0.0149	-0.1260	0.0497	0.0335
0.0705	1.15	-0.0882	0.0275	0.0211	-0.2084	0.0534	0.0510
0.0705	1.17	-0.1823	0.0307	0.0268	-0.3500	0.0550	0.0697
0.0705	1.19	-0.3438	0.0336	0.0291	-0.5810	0.0563	0.0877
0.0705	1.21	-0.4654	0.0361	0.0206	-0.7298	0.0570	0.0895
0.0705	1.23	-0.4393	0.0341	0.0253	-0.6620	0.0512	0.0739
0.0705	1.25	-0.2729	0.0326	0.0318	-0.4049	0.0469	0.0644
0.0705	1.27	-0.2148	0.0324	0.0243	-0.3190	0.0450	0.0472
0.0705	1.29	-0.0815	0.0326	0.0206	-0.1336	0.0437	0.0369
0.0705	1.31	-0.0799	0.0315	0.0192	-0.1301	0.0411	0.0304
0.0705	1.33	-0.0159	0.0303	0.0193	-0.0483	0.0384	0.0281
0.0705	1.35	0.0278	0.0294	0.0261	0.0047	0.0366	0.0342
0.0705	1.37	-0.0077	0.0323	0.0170	-0.0420	0.0394	0.0230
0.0705	1.39	-0.0071	0.0343	0.0133	-0.0436	0.0411	0.0184
0.0705	1.41	-0.0081	0.0371	0.0140	-0.0479	0.0438	0.0181
0.0705	1.43	-0.0334	0.0424	0.0125	-0.0811	0.0494	0.0154
0.0705	1.45	-0.0469	0.0494	0.0127	-0.0993	0.0568	0.0142
0.0705	1.47	0.0480	0.0532	0.0197	0.0061	0.0605	0.0165
0.0705	1.49	0.0268	0.0585	0.0217	-0.0155	0.0658	0.0187
0.0705	1.51	-0.0589	0.0608	0.0155	-0.1029	0.0678	0.0101
0.0705	1.53	-0.0213	0.0623	0.0149	-0.0566	0.0689	0.0101
0.0705	1.55	0.0088	0.0646	0.0236	-0.0204	0.0710	0.0226
0.0705	1.57	0.0180	0.0646	0.0172	-0.0069	0.0704	0.0164
0.0705	1.59	0.0654	0.0658	0.0228	0.0487	0.0714	0.0240
0.0705	1.61	-0.0934	0.0724	0.0104	-0.1187	0.0781	0.0142
0.0705	1.63	-0.2964	0.2194	0.0138	-0.3318	0.2353	0.0150
0.0705	1.65	-0.3986	0.2459	0.0218	-0.4375	0.2626	0.0237
0.0705	1.67	-0.6487	0.2592	0.0233	-0.6989	0.2756	0.0250
0.0705	1.69	-0.4695	0.2653	0.0176	-0.5042	0.2811	0.0188
0.0705	1.71	-0.4757	0.2768	0.0389	-0.5073	0.2920	0.0414
0.0705	1.73	-0.1320	0.2444	0.0089	-0.1420	0.2571	0.0105
0.0705	1.75	-0.2445	0.2754	0.0158	-0.2584	0.2888	0.0164
0.0705	1.77	-0.3532	0.2587	0.0283	-0.3702	0.2706	0.0293
0.0705	1.79	-0.1911	0.2854	0.0219	-0.1995	0.2977	0.0228
0.0705	1.81	0.1645	0.2945	0.0325	0.1720	0.3065	0.0332
0.0705	1.83	0.0107	0.3120	0.0224	0.0123	0.3241	0.0205
0.0705	1.85	-0.4197	0.3608	0.0238	-0.4334	0.3739	0.0236
0.0705	1.87	-0.0080	0.3694	0.0163	-0.0066	0.3820	0.0159
0.0705	1.89	-0.0158	0.4249	0.0368	-0.0140	0.4387	0.0358
0.0705	1.91	0.1556	0.4926	0.0437	0.1625	0.5078	0.0439
0.0705	1.93	0.7775	0.7211	0.1074	0.8033	0.7427	0.1085
0.0841	1.11	-0.0011	0.0197	0.0077	-0.0344	0.0502	0.0204
0.0841	1.13	0.0418	0.0209	0.0167	0.0534	0.0477	0.0398
0.0841	1.15	-0.0922	0.0257	0.0195	-0.2284	0.0533	0.0520
0.0841	1.17	-0.1829	0.0281	0.0274	-0.3697	0.0537	0.0730
0.0841	1.19	-0.3591	0.0331	0.0271	-0.6411	0.0588	0.0974
0.0841	1.21	-0.4294	0.0346	0.0240	-0.7084	0.0577	0.0986
0.0841	1.23	-0.3951	0.0341	0.0263	-0.6240	0.0539	0.0877
0.0841	1.25	-0.2820	0.0329	0.0285	-0.4375	0.0496	0.0704
0.0841	1.27	-0.1191	0.0301	0.0221	-0.1954	0.0434	0.0509
0.0841	1.29	-0.0580	0.0290	0.0185	-0.1080	0.0405	0.0373
0.0841	1.31	-0.0103	0.0287	0.0169	-0.0448	0.0389	0.0310
0.0841	1.33	-0.0119	0.0286	0.0170	-0.0477	0.0376	0.0273
0.0841	1.35	0.0040	0.0293	0.0157	-0.0295	0.0376	0.0240
0.0841	1.37	0.0889	0.0333	0.0133	0.0745	0.0419	0.0206
0.0841	1.39	0.0283	0.0373	0.0153	-0.0052	0.0459	0.0221
0.0841	1.41	-0.0317	0.0398	0.0097	-0.0831	0.0482	0.0150
0.0841	1.43	-0.0061	0.0432	0.0153	-0.0556	0.0514	0.0194
0.0841	1.45	0.0432	0.0479	0.0160	-0.0018	0.0563	0.0176
0.0841	1.47	-0.1542	0.0530	0.0199	-0.2344	0.0615	0.0157
0.0841	1.49	-0.0867	0.0528	0.0195	-0.1520	0.0606	0.0124
0.0841	1.51	-0.0552	0.0553	0.0235	-0.1063	0.0628	0.0202
0.0841	1.53	0.0077	0.0556	0.0205	-0.0302	0.0625	0.0166
0.0841	1.55	0.0064	0.0571	0.0168	-0.0281	0.0637	0.0097
0.0841	1.57	0.0670	0.0594	0.0147	0.0429	0.0657	0.0109
0.0841	1.59	0.0534	0.0657	0.0145	0.0320	0.0723	0.0134
0.0841	1.61	-0.1189	0.0812	0.0202	-0.1522	0.0888	0.0193
0.0841	1.63	-0.0830	0.2241	0.0171	-0.1083	0.2435	0.0184
0.0841	1.65	-0.5420	0.2504	0.0229	-0.6001	0.2704	0.0250
0.0841	1.67	-0.1202	0.2581	0.0078	-0.1407	0.2774	0.0096
0.0841	1.69	-0.2364	0.2279	0.0245	-0.2625	0.2438	0.0265
0.0841	1.71	-0.0973	0.2372	0.0212	-0.1112	0.2529	0.0229
0.0841	1.73	-0.2803	0.2319	0.0108	-0.3022	0.2462	0.0132
0.0841	1.75	0.2490	0.2495	0.0189	0.2607	0.2639	0.0195
0.0841	1.77	-0.2657	0.2486	0.0146	-0.2818	0.2620	0.0154
0.0841	1.79	-0.1511	0.2515	0.0157	-0.1596	0.2645	0.0163
0.0841	1.81	-0.5527	0.3129	0.0246	-0.5792	0.3280	0.0251
0.0841	1.83	-0.3698	0.3337	0.0208	-0.3859	0.3489	0.0222
0.0841	1.85	-0.3956	0.2948	0.0508	-0.4120	0.3074	0.0520
0.0841	1.87	-0.1814	0.3148	0.0200	-0.1880	0.3276	0.0183
0.0841	1.89	-0.3699	0.3590	0.0189	-0.3827	0.3729	0.0152
0.0841	1.91	-0.5218	0.3978	0.0811	-0.5394	0.4124	0.0831
0.0841	1.93	-2.0960	1.9021	1.2218	-2.1696	1.9695	1.2624
0.1005	1.11	0.0127	0.0180	0.0123	0.0049	0.0493	0.0363
0.1005	1.13	0.0008	0.0207	0.0086	-0.0373	0.0503	0.0288
0.1005	1.15	-0.0251	0.0236	0.0140	-0.0936	0.0518	0.0498
0.1005	1.17	-0.1859	0.0254	0.0243	-0.3979	0.0511	0.0799
0.1005	1.19	-0.3095	0.0278	0.0282	-0.5798	0.0521	0.1009
0.1005	1.21	-0.4579	0.0300	0.0247	-0.7958	0.0527	0.1083
0.1005	1.23	-0.3698	0.0297	0.0299	-0.6144	0.0493	0.0951
0.1005	1.25	-0.2810	0.0286	0.0268	-0.4573	0.0452	0.0728
0.1005	1.27	-0.1579	0.0287	0.0230	-0.2637	0.0435	0.0564
0.1005	1.29	-0.0897	0.0292	0.0185	-0.1604	0.0425	0.0405
0.1005	1.31	-0.0570	0.0282	0.0161	-0.1146	0.0397	0.0313
0.1005	1.33	0.0070	0.0293	0.0145	-0.0277	0.0400	0.0270
0.1005	1.35	0.0447	0.0310	0.0130	0.0203	0.0412	0.0224
0.1005	1.37	0.0370	0.0161	0.0247	0.0063	0.0210	0.0288
0.1005	1.39	-0.0423	0.0334	0.0085	-0.0996	0.0423	0.0158
0.1005	1.41	0.0188	0.0342	0.0150	-0.0265	0.0424	0.0208
0.1005	1.43	-0.0007	0.0354	0.0115	-0.0556	0.0432	0.0160
0.1005	1.45	-0.0279	0.0410	0.0095	-0.0925	0.0493	0.0071
0.1005	1.47	-0.0644	0.0427	0.0208	-0.1396	0.0506	0.0153
0.1005	1.49	-0.0259	0.0451	0.0203	-0.0900	0.0528	0.0124
0.1005	1.51	-0.0516	0.0453	0.0199	-0.1099	0.0524	0.0138
0.1005	1.53	0.0538	0.0470	0.0194	0.0171	0.0538	0.0130
0.1005	1.55	-0.0076	0.0501	0.0280	-0.0496	0.0568	0.0262
0.1005	1.57	-0.0194	0.0553	0.0212	-0.0587	0.0623	0.0190
0.1005	1.59	0.0342	0.0633	0.0184	0.0065	0.0708	0.0177
0.1005	1.61	-0.1128	0.0784	0.0196	-0.1515	0.0870	0.0211
0.1005	1.63	-0.2829	0.0926	0.0385	-0.3333	0.1019	0.0424
0.1005	1.65	0.0092	0.0890	0.0076	-0.0082	0.0974	0.0083
0.1005	1.67	-0.2990	0.0928	0.0151	-0.3404	0.1010	0.0167
0.1005	1.69	-0.1361	0.0980	0.0071	-0.1591	0.1060	0.0092
0.1005	1.71	-0.0640	0.0934	0.0261	-0.0778	0.1006	0.0288
0.1005	1.73	-0.2586	0.0938	0.0199	-0.2838	0.1006	0.0223
0.1005	1.75	-0.1331	0.0955	0.0082	-0.1468	0.1020	0.0103
0.1005	1.77	-0.0519	0.1032	0.0104	-0.0588	0.1098	0.0122
0.1005	1.79	-0.1476	0.1072	0.0108	-0.1586	0.1136	0.0113
0.1005	1.81	-0.1362	0.1036	0.0216	-0.1451	0.1094	0.0218
0.1005	1.83	-0.0602	0.1034	0.0242	-0.0642	0.1089	0.0247
0.1005	1.85	0.1107	0.1134	0.0160	0.1161	0.1191	0.0162
0.1005	1.87	-0.1800	0.1166	0.0140	-0.1886	0.1222	0.0146

0.1005	1.89	-0.0446	0.1215	0.0174	-0.0461	0.1270	0.0162
0.1005	1.91	-0.1730	0.1315	0.0202	-0.1795	0.1372	0.0196
0.1005	1.93	-0.2678	0.1492	0.0264	-0.2771	0.1552	0.0249
0.1005	1.95	-0.0465	0.1579	0.0393	-0.0460	0.1640	0.0400
0.1005	1.97	0.0332	0.1763	0.0359	0.0374	0.1828	0.0370
0.1005	1.99	-0.0122	0.1633	0.0333	-0.0090	0.1690	0.0315
0.1005	2.01	-0.0750	0.1899	0.0268	-0.0736	0.1962	0.0255
0.1005	2.03	-0.1766	0.2210	0.0277	-0.1788	0.2281	0.0268
0.1005	2.05	0.2839	0.3877	0.0653	0.2961	0.3998	0.0647
0.1200	1.11	0.0030	0.0195	0.0096	-0.0208	0.0563	0.0281
0.1200	1.13	-0.0133	0.0193	0.0114	-0.0756	0.0495	0.0339
0.1200	1.15	-0.0476	0.0218	0.0169	-0.1487	0.0512	0.0518
0.1200	1.17	-0.1657	0.0261	0.0245	-0.3742	0.0560	0.0781
0.1200	1.19	-0.2683	0.0301	0.0288	-0.5309	0.0602	0.1017
0.1200	1.21	-0.4017	0.0342	0.0280	-0.7331	0.0637	0.1095
0.1200	1.23	-0.3360	0.0347	0.0270	-0.5858	0.0609	0.0983
0.1200	1.25	-0.2806	0.0340	0.0286	-0.4789	0.0564	0.0801
0.1200	1.27	-0.1181	0.0259	0.0279	-0.2128	0.0412	0.0534
0.1200	1.29	-0.0364	0.0339	0.0168	-0.0904	0.0516	0.0432
0.1200	1.31	-0.0128	0.0288	0.0168	-0.0573	0.0419	0.0336
0.1200	1.33	-0.0111	0.0276	0.0160	-0.0570	0.0391	0.0286
0.1200	1.35	-0.0550	0.0277	0.0105	-0.1198	0.0381	0.0199
0.1200	1.37	0.0128	0.0299	0.0162	-0.0302	0.0402	0.0252
0.1200	1.39	0.0126	0.0315	0.0143	-0.0348	0.0412	0.0224
0.1200	1.41	-0.0024	0.0344	0.0162	-0.0588	0.0441	0.0226
0.1200	1.43	-0.0156	0.0348	0.0086	-0.0805	0.0437	0.0131
0.1200	1.45	-0.0231	0.0380	0.0141	-0.0948	0.0470	0.0150
0.1200	1.47	0.0043	0.0437	0.0197	-0.0653	0.0532	0.0124
0.1200	1.49	0.0148	0.0497	0.0237	-0.0496	0.0596	0.0171
0.1200	1.51	0.1075	0.0572	0.0450	0.0699	0.0679	0.0493
0.1200	1.53	0.0307	0.0668	0.0270	-0.0155	0.0783	0.0238
0.1200	1.55	0.0311	0.0695	0.0864	-0.0118	0.0805	0.0977
0.1200	1.57	0.0533	0.0524	0.0225	0.0170	0.0602	0.0467
0.1200	1.59	0.0193	0.0712	0.0322	-0.0159	0.0809	0.0322
0.1200	1.61	-0.1328	0.0923	0.0237	-0.1817	0.1040	0.0260
0.1200	1.63	0.0019	0.0941	0.0118	-0.0249	0.1052	0.0128
0.1200	1.65	-0.0447	0.0910	0.0091	-0.0723	0.1010	0.0096
0.1200	1.67	-0.0118	0.0936	0.0164	-0.0320	0.1033	0.0182
0.1200	1.69	-0.1392	0.0966	0.0087	-0.1684	0.1059	0.0102
0.1200	1.71	-0.0334	0.0936	0.0075	-0.0486	0.1021	0.0088
0.1200	1.73	-0.0627	0.0924	0.0202	-0.0773	0.1002	0.0224
0.1200	1.75	0.0497	0.0931	0.0161	0.0469	0.1005	0.0178
0.1200	1.77	0.0241	0.0921	0.0154	0.0206	0.0991	0.0162
0.1200	1.79	0.0566	0.0935	0.0121	0.0566	0.1001	0.0134
0.1200	1.81	-0.1490	0.0915	0.0121	-0.1619	0.0977	0.0118
0.1200	1.83	-0.1018	0.1033	0.0130	-0.1107	0.1099	0.0128
0.1200	1.85	-0.0211	0.1066	0.0160	-0.0242	0.1130	0.0151
0.1200	1.87	-0.2617	0.1079	0.0410	-0.2778	0.1140	0.0418
0.1200	1.89	0.1328	0.1125	0.0295	0.1392	0.1185	0.0286
0.1200	1.91	0.0586	0.1230	0.0192	0.0616	0.1293	0.0173
0.1200	1.93	-0.0393	0.1327	0.0198	-0.0407	0.1391	0.0169
0.1200	1.95	-0.0171	0.1399	0.0246	-0.0165	0.1463	0.0211
0.1200	1.97	-0.2016	0.1502	0.0276	-0.2080	0.1567	0.0256
0.1200	1.99	-0.1643	0.1435	0.0247	-0.1681	0.1494	0.0222
0.1200	2.01	-0.0498	0.1661	0.0230	-0.0486	0.1726	0.0181
0.1200	2.03	-0.0715	0.1809	0.0241	-0.0711	0.1878	0.0157
0.1430	1.11	0.0408	0.0214	0.0066	0.0965	0.0657	0.0247
0.1430	1.13	0.0012	0.0278	0.0103	-0.0361	0.0758	0.0381
0.1430	1.15	-0.0105	0.0283	0.0350	-0.0569	0.0692	0.0986
0.1430	1.17	-0.1231	0.0247	0.0500	-0.2929	0.0562	0.1112
0.1430	1.19	-0.3145	0.0346	0.0281	-0.6489	0.0722	0.1147
0.1430	1.21	-0.3480	0.0344	0.0362	-0.6568	0.0665	0.1129
0.1430	1.23	-0.3686	0.0327	0.0294	-0.6681	0.0596	0.0939
0.1430	1.25	-0.1819	0.0303	0.0248	-0.3283	0.0523	0.0747
0.1430	1.27	-0.1617	0.0282	0.0218	-0.2941	0.0465	0.0559
0.1430	1.29	-0.1206	0.0273	0.0171	-0.2265	0.0431	0.0428
0.1430	1.31	-0.0413	0.0264	0.0135	-0.1032	0.0402	0.0307
0.1430	1.33	0.0218	0.0267	0.0104	-0.0129	0.0392	0.0233
0.1430	1.35	0.0132	0.0289	0.0071	-0.0291	0.0412	0.0178
0.1430	1.37	0.0196	0.0313	0.0220	-0.0242	0.0434	0.0341
0.1430	1.39	0.0065	0.0334	0.0130	-0.0470	0.0451	0.0210
0.1430	1.41	0.0455	0.0368	0.0059	-0.0002	0.0488	0.0126
0.1430	1.43	0.0828	0.0458	0.0128	0.0413	0.0592	0.0183
0.1430	1.45	0.0179	0.0539	0.0159	-0.0491	0.0686	0.0178
0.1430	1.47	-0.0492	0.0661	0.0332	-0.1385	0.0826	0.0355
0.1430	1.49	-0.0201	0.0574	0.0858	-0.0987	0.0705	0.1066
0.1430	1.51	0.0296	0.0558	0.0433	-0.0272	0.0672	0.0203
0.1430	1.53	0.1041	0.0628	0.0256	0.0667	0.0748	0.0239
0.1430	1.55	0.0102	0.0684	0.0310	-0.0416	0.0807	0.0346
0.1430	1.57	0.0473	0.0699	0.0300	0.0057	0.0815	0.0334
0.1430	1.59	-0.0163	0.0705	0.0177	-0.0628	0.0815	0.0183
0.1430	1.61	0.0280	0.0871	0.0101	-0.0058	0.0997	0.0115
0.1430	1.63	-0.0442	0.0844	0.0090	-0.0822	0.0957	0.0093
0.1430	1.65	0.0302	0.0908	0.0106	0.0064	0.1023	0.0118
0.1430	1.67	-0.0828	0.0870	0.0157	-0.1163	0.0973	0.0174
0.1430	1.69	-0.0368	0.0900	0.0104	-0.0607	0.1000	0.0115
0.1430	1.71	-0.2250	0.0889	0.0267	-0.2637	0.0981	0.0299
0.1430	1.73	0.0465	0.0893	0.0200	0.0392	0.0980	0.0220
0.1430	1.75	-0.1253	0.0903	0.0099	-0.1460	0.0986	0.0100
0.1430	1.77	-0.0488	0.0935	0.0258	-0.0608	0.1016	0.0279
0.1430	1.79	-0.0695	0.0908	0.0114	-0.0810	0.0982	0.0109
0.1430	1.81	-0.0868	0.0954	0.0132	-0.0982	0.1028	0.0118
0.1430	1.83	-0.1977	0.0977	0.0439	-0.2162	0.1048	0.0464
0.1430	1.85	-0.0726	0.1020	0.0152	-0.0810	0.1090	0.0119
0.1430	1.87	-0.0415	0.0971	0.0160	-0.0471	0.1034	0.0131
0.1430	1.89	-0.0068	0.1151	0.0388	-0.0095	0.1222	0.0398
0.1430	1.91	-0.1436	0.1255	0.0185	-0.1535	0.1328	0.0186
0.1430	1.93	-0.1053	0.1289	0.0239	-0.1120	0.1360	0.0248
0.1430	1.95	-0.0144	0.1317	0.0346	-0.0151	0.1387	0.0333
0.1430	1.97	-0.0489	0.1436	0.0248	-0.0503	0.1509	0.0228
0.1430	1.99	0.1635	0.1524	0.0287	0.1734	0.1596	0.0260
0.1430	2.01	0.1052	0.1515	0.0310	0.1125	0.1584	0.0254
0.1430	2.03	0.0516	0.3122	0.1244	0.0563	0.3259	0.1278
0.1708	1.11	0.0057	0.0152	0.0120	-0.0067	0.0486	0.0358
0.1708	1.13	0.0064	0.0194	0.0076	-0.0178	0.0555	0.0250
0.1708	1.15	-0.0645	0.0205	0.0180	-0.1985	0.0529	0.0557
0.1708	1.17	-0.1390	0.0219	0.0253	-0.3444	0.0521	0.0807
0.1708	1.19	-0.2574	0.0251	0.0280	-0.5539	0.0555	0.1072
0.1708	1.21	-0.3575	0.0268	0.0296	-0.7141	0.0554	0.1133
0.1708	1.23	-0.3209	0.0283	0.0281	-0.6119	0.0547	0.1040
0.1708	1.25	-0.1821	0.0263	0.0236	-0.3434	0.0481	0.0745
0.1708	1.27	-0.1128	0.0253	0.0188	-0.2237	0.0440	0.0536
0.1708	1.29	-0.0932	0.0262	0.0179	-0.1923	0.0438	0.0445
0.1708	1.31	0.0163	0.0272	0.0117	-0.0174	0.0435	0.0310
0.1708	1.33	-0.0132	0.0291	0.0128	-0.0682	0.0448	0.0267
0.1708	1.35	0.0079	0.0325	0.0071	-0.0413	0.0485	0.0182
0.1708	1.37	0.0783	0.0372	0.0117	0.0574	0.0538	0.0211
0.1708	1.39	0.0957	0.0407	0.0145	0.0736	0.0571	0.0223
0.1708	1.41	-0.0354	0.0457	0.0230	-0.1141	0.0625	0.0330
0.1708	1.43	0.0364	0.0312	0.0365	-0.0227	0.0416	0.0493
0.1708	1.45	0.0894	0.0405	0.0218	0.0385	0.0531	0.0267
0.1708	1.47	0.1295	0.0421	0.0235	0.0815	0.0540	0.0213
0.1708	1.49	0.0599	0.0415	0.0258	-0.0065	0.0524	0.0236
0.1708	1.51	0.1041	0.0426	0.0223	0.0580	0.0530	0.0216
0.1708	1.53	0.0769	0.0448	0.0296	0.0285	0.0550	0.0333
0.1708	1.55	0.0789	0.0461	0.0307	0.0347	0.0558	0.0339
0.1708	1.57	0.0997	0.0526	0.0169	0.0622	0.0629	0.0229

0.1708	1.59	0.0487	0.0504	0.0139	0.0066	0.0596	0.0176
0.1708	1.61	0.0323	0.0499	0.0146	-0.0078	0.0584	0.0177
0.1708	1.63	-0.0004	0.0523	0.0117	-0.0400	0.0606	0.0138
0.1708	1.65	-0.0131	0.0521	0.0171	-0.0499	0.0598	0.0199
0.1708	1.67	0.0074	0.0537	0.0124	-0.0217	0.0612	0.0142
0.1708	1.69	-0.0688	0.0548	0.0111	-0.1032	0.0619	0.0128
0.1708	1.71	0.0301	0.0564	0.0103	0.0133	0.0633	0.0114
0.1708	1.73	-0.0158	0.0530	0.0128	-0.0338	0.0591	0.0140
0.1708	1.75	0.0325	0.0504	0.0095	0.0229	0.0559	0.0101
0.1708	1.77	-0.0290	0.0516	0.0102	-0.0429	0.0569	0.0117
0.1708	1.79	-0.1043	0.0539	0.0143	-0.1234	0.0591	0.0151
0.1708	1.81	-0.1479	0.0567	0.0166	-0.1692	0.0618	0.0189
0.1708	1.83	-0.0508	0.0594	0.0226	-0.0621	0.0645	0.0247
0.1708	1.85	-0.0324	0.0606	0.0146	-0.0411	0.0656	0.0161
0.1708	1.87	0.0691	0.0594	0.0157	0.0689	0.0640	0.0166
0.1708	1.89	-0.0786	0.0599	0.0155	-0.0888	0.0643	0.0168
0.1708	1.91	-0.0231	0.0616	0.0197	-0.0284	0.0659	0.0199
0.1708	1.93	0.0026	0.0624	0.0169	0.0001	0.0665	0.0186
0.1708	1.95	0.0139	0.0681	0.0191	0.0131	0.0723	0.0179
0.1708	1.97	0.0104	0.0660	0.0218	0.0105	0.0699	0.0207
0.1708	1.99	-0.0668	0.0680	0.0293	-0.0701	0.0718	0.0310
0.1708	2.01	-0.0842	0.0759	0.0202	-0.0875	0.0800	0.0202
0.1708	2.03	-0.0036	0.0799	0.0155	-0.0028	0.0841	0.0186
0.1708	2.05	-0.1156	0.0837	0.0201	-0.1205	0.0878	0.0216
0.1708	2.07	0.0238	0.0851	0.0208	0.0256	0.0891	0.0213
0.1708	2.09	-0.1051	0.0896	0.0157	-0.1092	0.0937	0.0159
0.1708	2.11	-0.0690	0.0940	0.0190	-0.0715	0.0981	0.0197
0.1708	2.13	0.0118	0.1043	0.0163	0.0126	0.1086	0.0197
0.1708	2.15	0.1522	0.1003	0.0281	0.1586	0.1042	0.0286
0.1708	2.17	0.0555	0.1052	0.0204	0.0578	0.1091	0.0214
0.1708	2.19	0.1865	0.1060	0.0186	0.1934	0.1098	0.0159
0.1708	2.21	-0.0901	0.1087	0.0196	-0.0931	0.1124	0.0182
0.1708	2.23	0.1276	0.1240	0.0257	0.1319	0.1281	0.0253
0.1708	2.25	-0.2182	0.1422	0.0340	-0.2251	0.1467	0.0338
0.1708	2.27	-0.0805	0.1393	0.0264	-0.0829	0.1435	0.0251
0.1708	2.29	0.3208	0.2182	0.2101	0.3303	0.2247	0.2158
0.2042	1.11	0.0156	0.0139	0.0127	0.0292	0.0468	0.0412
0.2042	1.13	0.0061	0.0176	0.0139	-0.0121	0.0528	0.0445
0.2042	1.15	-0.0234	0.0203	0.0151	-0.0867	0.0556	0.0474
0.2042	1.17	-0.1279	0.0265	0.0221	-0.3264	0.0667	0.0851
0.2042	1.19	-0.2398	0.0307	0.0252	-0.5336	0.0709	0.1077
0.2042	1.21	-0.2775	0.0344	0.0268	-0.5689	0.0746	0.1139
0.2042	1.23	-0.3184	0.0394	0.0266	-0.6317	0.0801	0.1127
0.2042	1.25	-0.1892	0.0412	0.0269	-0.3685	0.0789	0.0900
0.2042	1.27	-0.0950	0.0384	0.0222	-0.1985	0.0700	0.0657
0.2042	1.29	0.0075	0.0383	0.0184	-0.0229	0.0669	0.0486
0.2042	1.31	-0.0561	0.0440	0.0136	-0.1392	0.0729	0.0358
0.2042	1.33	0.0729	0.0383	0.0181	0.0634	0.0610	0.0338
0.2042	1.35	0.0280	0.0318	0.0061	-0.0128	0.0489	0.0136
0.2042	1.37	0.0509	0.0314	0.0080	0.0166	0.0469	0.0151
0.2042	1.39	-0.0089	0.0318	0.0160	-0.0768	0.0462	0.0249
0.2042	1.41	0.0278	0.0328	0.0097	-0.0301	0.0463	0.0155
0.2042	1.43	0.0442	0.0344	0.0346	-0.0146	0.0474	0.0479
0.2042	1.45	0.0146	0.0395	0.0356	-0.0630	0.0534	0.0471
0.2042	1.47	0.0907	0.0447	0.0226	0.0301	0.0592	0.0226
0.2042	1.49	0.1207	0.0460	0.0286	0.0683	0.0598	0.0304
0.2042	1.51	0.0657	0.0515	0.0254	0.0048	0.0659	0.0307
0.2042	1.53	0.0241	0.0521	0.0219	-0.0412	0.0654	0.0303
0.2042	1.55	0.0678	0.0517	0.0207	0.0158	0.0641	0.0295
0.2042	1.57	0.0630	0.0503	0.0178	0.0132	0.0614	0.0247
0.2042	1.59	0.1191	0.0464	0.0165	0.0853	0.0560	0.0196
0.2042	1.61	0.0467	0.0480	0.0106	0.0032	0.0573	0.0160
0.2042	1.63	0.0847	0.0468	0.0109	0.0527	0.0552	0.0140
0.2042	1.65	-0.0618	0.0514	0.0163	-0.1145	0.0601	0.0209
0.2042	1.67	-0.0623	0.0554	0.0194	-0.1091	0.0642	0.0235
0.2042	1.69	0.0052	0.0543	0.0206	-0.0254	0.0625	0.0240
0.2042	1.71	-0.1007	0.0530	0.0107	-0.1404	0.0604	0.0122
0.2042	1.73	0.0210	0.0532	0.0098	0.0031	0.0602	0.0101
0.2042	1.75	0.0056	0.0541	0.0095	-0.0108	0.0609	0.0086
0.2042	1.77	0.0530	0.0557	0.0130	0.0448	0.0622	0.0129
0.2042	1.79	-0.0375	0.0584	0.0143	-0.0539	0.0649	0.0143
0.2042	1.81	-0.0397	0.0567	0.0129	-0.0543	0.0626	0.0113
0.2042	1.83	-0.1375	0.0573	0.0141	-0.1610	0.0630	0.0126
0.2042	1.85	0.0139	0.0585	0.0155	0.0062	0.0639	0.0145
0.2042	1.87	-0.0498	0.0594	0.0155	-0.0624	0.0647	0.0151
0.2042	1.89	-0.0632	0.0621	0.0205	-0.0757	0.0673	0.0211
0.2042	1.91	-0.0720	0.0600	0.0188	-0.0837	0.0648	0.0194
0.2042	1.93	-0.0658	0.0619	0.0186	-0.0758	0.0666	0.0175
0.2042	1.95	0.0077	0.0634	0.0199	0.0046	0.0680	0.0206
0.2042	1.97	-0.0413	0.0668	0.0222	-0.0467	0.0714	0.0216
0.2042	1.99	0.0257	0.0769	0.0240	0.0262	0.0820	0.0233
0.2042	2.01	-0.0639	0.0808	0.0185	-0.0686	0.0858	0.0201
0.2042	2.03	-0.1167	0.0938	0.0165	-0.1244	0.0994	0.0208
0.2042	2.05	-0.0568	0.0738	0.0164	-0.0608	0.0780	0.0171
0.2042	2.07	0.0227	0.0774	0.0169	0.0231	0.0816	0.0175
0.2042	2.09	-0.1462	0.0868	0.0202	-0.1548	0.0913	0.0225
0.2042	2.11	0.0482	0.0875	0.0196	0.0496	0.0918	0.0170
0.2042	2.13	-0.1436	0.0912	0.0221	-0.1513	0.0955	0.0214
0.2042	2.15	-0.0279	0.0975	0.0164	-0.0301	0.1020	0.0163
0.2042	2.17	0.2054	0.0972	0.0211	0.2133	0.1014	0.0240
0.2042	2.19	-0.0430	0.1018	0.0179	-0.0459	0.1060	0.0151
0.2042	2.21	-0.1777	0.1107	0.0194	-0.1859	0.1151	0.0197
0.2042	2.23	-0.0400	0.1096	0.0159	-0.0426	0.1138	0.0141
0.2042	2.25	0.1065	0.1112	0.0355	0.1093	0.1153	0.0355
0.2042	2.27	0.0565	0.1069	0.0401	0.0574	0.1107	0.0393
0.2436	1.11	-0.0012	0.0237	0.0137	-0.0238	0.0784	0.0422
0.2436	1.13	-0.0022	0.0139	0.0298	-0.0337	0.0438	0.1109
0.2436	1.15	-0.0533	0.0323	0.0102	-0.1736	0.0915	0.0446
0.2436	1.17	-0.1296	0.0249	0.0611	-0.3241	0.0645	0.1397
0.2436	1.19	-0.1718	0.0406	0.0284	-0.3912	0.0969	0.1007
0.2436	1.21	-0.3282	0.0376	0.0328	-0.7034	0.0837	0.1000
0.2436	1.23	-0.2560	0.0339	0.0224	-0.5232	0.0715	0.0774
0.2436	1.25	-0.1493	0.0336	0.0206	-0.3036	0.0670	0.0701
0.2436	1.27	-0.0772	0.0286	0.0149	-0.1732	0.0540	0.0448
0.2436	1.29	-0.0182	0.0263	0.0138	-0.0712	0.0476	0.0358
0.2436	1.31	0.0134	0.0249	0.0096	-0.0246	0.0431	0.0226
0.2436	1.33	0.0237	0.0244	0.0079	-0.0152	0.0407	0.0152
0.2436	1.35	0.0482	0.0245	0.0060	0.0182	0.0395	0.0092
0.2436	1.37	0.0539	0.0289	0.0138	0.0201	0.0451	0.0210
0.2436	1.39	0.0674	0.0311	0.0085	0.0346	0.0471	0.0123
0.2436	1.41	0.0536	0.0337	0.0264	0.0055	0.0494	0.0392
0.2436	1.43	0.1264	0.0361	0.0290	0.1016	0.0517	0.0395
0.2436	1.45	0.1158	0.0413	0.0105	0.0751	0.0577	0.0094
0.2436	1.47	0.0499	0.0453	0.0220	-0.0267	0.0620	0.0230
0.2436	1.49	0.1690	0.0495	0.0237	0.1326	0.0663	0.0314
0.2436	1.51	0.2754	0.0530	0.0251	0.2772	0.0697	0.0372
0.2436	1.53	0.1047	0.0495	0.0235	0.0558	0.0639	0.0346
0.2436	1.55	0.0992	0.0476	0.0226	0.0511	0.0606	0.0309
0.2436	1.57	0.0507	0.0469	0.0194	-0.0081	0.0589	0.0275
0.2436	1.59	0.1434	0.0476	0.0164	0.1105	0.0590	0.0248
0.2436	1.61	0.0360	0.0502	0.0135	-0.0175	0.0614	0.0219
0.2436	1.63	-0.0024	0.0499	0.0097	-0.0587	0.0602	0.0176
0.2436	1.65	-0.0116	0.0504	0.0113	-0.0650	0.0603	0.0175
0.2436	1.67	0.0519	0.0530	0.0160	0.0158	0.0627	0.0217
0.2436	1.69	0.1017	0.0548	0.0133	0.0800	0.0643	0.0177
0.2436	1.71	0.0527	0.0533	0.0117	0.0291	0.0620	0.0143
0.2436	1.73	0.0476	0.0556	0.0129	0.0284	0.0641	0.0139
0.2436	1.75	0.0148	0.0476	0.0153	-0.0054	0.0545	0.0155

0.2436	1.77	0.0567	0.0486	0.0109	0.0453	0.0553	0.0091
0.2436	1.79	-0.0555	0.0540	0.0118	-0.0791	0.0610	0.0084
0.2436	1.81	-0.0964	0.0551	0.0122	-0.1228	0.0618	0.0107
0.2436	1.83	0.1022	0.0569	0.0170	0.1001	0.0635	0.0162
0.2436	1.85	-0.0419	0.0534	0.0159	-0.0592	0.0593	0.0164
0.2436	1.87	-0.0653	0.0589	0.0169	-0.0838	0.0650	0.0131
0.2436	1.89	-0.0134	0.0596	0.0160	-0.0253	0.0654	0.0158
0.2436	1.91	0.0673	0.0612	0.0199	0.0645	0.0670	0.0185
0.2436	1.93	-0.0176	0.0668	0.0194	-0.0270	0.0728	0.0198
0.2436	1.95	0.0038	0.0692	0.0183	-0.0024	0.0751	0.0170
0.2436	1.97	-0.0266	0.0781	0.0190	-0.0336	0.0845	0.0198
0.2436	1.99	-0.0319	0.0788	0.0231	-0.0379	0.0849	0.0244
0.2436	2.01	0.0315	0.0725	0.0187	0.0308	0.0778	0.0185
0.2436	2.03	-0.0212	0.0708	0.0240	-0.0257	0.0758	0.0221
0.2436	2.05	0.0387	0.0731	0.0167	0.0383	0.0780	0.0170
0.2436	2.07	-0.0402	0.0810	0.0199	-0.0457	0.0862	0.0187
0.2436	2.09	-0.0072	0.0769	0.0298	-0.0106	0.0816	0.0310
0.2436	2.11	-0.1060	0.0790	0.0184	-0.1150	0.0836	0.0147
0.2436	2.13	0.0341	0.0896	0.0271	0.0333	0.0946	0.0280
0.2436	2.15	-0.0138	0.0908	0.0169	-0.0173	0.0956	0.0155
0.2436	2.17	0.0462	0.0877	0.0164	0.0457	0.0922	0.0145
0.2436	2.19	0.0527	0.0806	0.0258	0.0526	0.0845	0.0244
0.2436	2.21	0.2246	0.0883	0.0232	0.2324	0.0925	0.0206
0.2436	2.23	-0.1107	0.0997	0.0165	-0.1183	0.1042	0.0145
0.2436	2.25	-0.0440	0.0902	0.0207	-0.0486	0.0941	0.0182
0.2436	2.27	0.2414	0.1235	0.0373	0.2491	0.1287	0.0351
0.2904	1.11	0.0056	0.0239	0.0138	0.0022	0.0825	0.0539
0.2904	1.13	0.0230	0.0220	0.0139	0.0503	0.0696	0.0499
0.2904	1.15	-0.0635	0.0233	0.0157	-0.1980	0.0670	0.0480
0.2904	1.17	-0.1032	0.0242	0.0188	-0.2708	0.0649	0.0662
0.2904	1.19	-0.2175	0.0260	0.0176	-0.5165	0.0648	0.0721
0.2904	1.21	-0.2354	0.0271	0.0208	-0.5169	0.0638	0.0763
0.2904	1.23	-0.2081	0.0271	0.0229	-0.4389	0.0597	0.0713
0.2904	1.25	-0.1583	0.0271	0.0166	-0.3363	0.0568	0.0552
0.2904	1.27	-0.0895	0.0279	0.0170	-0.2026	0.0555	0.0439
0.2904	1.29	0.0036	0.0299	0.0132	-0.0312	0.0567	0.0305
0.2904	1.31	-0.0113	0.0315	0.0145	-0.0708	0.0571	0.0259
0.2904	1.33	0.0530	0.0281	0.0154	0.0353	0.0488	0.0248
0.2904	1.35	0.0190	0.0271	0.0095	-0.0313	0.0456	0.0105
0.2904	1.37	0.0666	0.0353	0.0079	0.0421	0.0573	0.0082
0.2904	1.39	0.0805	0.0361	0.0089	0.0556	0.0567	0.0113
0.2904	1.41	0.0500	0.0382	0.0079	0.0008	0.0582	0.0095
0.2904	1.43	0.1293	0.0398	0.0091	0.1100	0.0591	0.0116
0.2904	1.45	0.1084	0.0456	0.0110	0.0674	0.0661	0.0162
0.2904	1.47	0.1817	0.0470	0.0201	0.1590	0.0666	0.0293
0.2904	1.49	0.2295	0.0469	0.0221	0.2184	0.0649	0.0328
0.2904	1.51	0.2407	0.0445	0.0244	0.2340	0.0605	0.0344
0.2904	1.53	0.1840	0.0427	0.0238	0.1579	0.0571	0.0345
0.2904	1.55	0.1574	0.0444	0.0267	0.1227	0.0583	0.0384
0.2904	1.57	0.1541	0.0476	0.0277	0.1184	0.0615	0.0423
0.2904	1.59	0.1373	0.0478	0.0197	0.0983	0.0609	0.0332
0.2904	1.61	0.1341	0.0462	0.0154	0.0961	0.0580	0.0253
0.2904	1.63	0.1432	0.0466	0.0200	0.1107	0.0578	0.0283
0.2904	1.65	0.0454	0.0496	0.0167	-0.0066	0.0608	0.0257
0.2904	1.67	0.0273	0.0514	0.0101	-0.0231	0.0623	0.0203
0.2904	1.69	0.0136	0.0527	0.0154	-0.0326	0.0633	0.0233
0.2904	1.71	0.0506	0.0495	0.0135	0.0196	0.0587	0.0182
0.2904	1.73	0.1366	0.0485	0.0102	0.1274	0.0571	0.0118
0.2904	1.75	0.0126	0.0483	0.0089	-0.0139	0.0564	0.0067
0.2904	1.77	0.1223	0.0515	0.0172	0.1172	0.0597	0.0173
0.2904	1.79	0.1243	0.0553	0.0157	0.1217	0.0636	0.0151
0.2904	1.81	0.0407	0.0579	0.0148	0.0274	0.0661	0.0117
0.2904	1.83	-0.0734	0.0609	0.0165	-0.1013	0.0692	0.0143
0.2904	1.85	0.0433	0.0631	0.0178	0.0319	0.0712	0.0175
0.2904	1.87	-0.0824	0.0676	0.0174	-0.1084	0.0758	0.0123
0.2904	1.89	-0.0630	0.0649	0.0189	-0.0845	0.0723	0.0183
0.2904	1.91	-0.0026	0.0589	0.0176	-0.0158	0.0654	0.0141
0.2904	1.93	0.0519	0.0713	0.0190	0.0460	0.0788	0.0193
0.2904	1.95	-0.0806	0.0629	0.0196	-0.0983	0.0691	0.0158
0.2904	1.97	0.0721	0.0668	0.0217	0.0706	0.0732	0.0203
0.2904	1.99	-0.0331	0.0660	0.0175	-0.0428	0.0720	0.0152
0.2904	2.01	0.1002	0.0619	0.0194	0.1029	0.0672	0.0176
0.2904	2.03	0.0314	0.0718	0.0157	0.0280	0.0777	0.0150
0.2904	2.05	0.0276	0.0722	0.0163	0.0240	0.0779	0.0146
0.2904	2.07	0.0560	0.0731	0.0189	0.0546	0.0786	0.0149
0.2904	2.09	-0.1350	0.0728	0.0244	-0.1502	0.0780	0.0220
0.2904	2.11	-0.0132	0.0751	0.0152	-0.0195	0.0803	0.0123
0.2904	2.13	-0.0011	0.0767	0.0183	-0.0065	0.0818	0.0170
0.2904	2.15	-0.0255	0.0814	0.0190	-0.0324	0.0865	0.0175
0.2904	2.17	0.0461	0.0837	0.0207	0.0438	0.0888	0.0178
0.2904	2.19	-0.0402	0.0762	0.0333	-0.0476	0.0806	0.0320
0.2904	2.21	0.0195	0.0874	0.0395	0.0156	0.0923	0.0400
0.2904	2.23	-0.1206	0.1086	0.0222	-0.1319	0.1144	0.0203
0.2904	2.25	-0.0087	0.1194	0.0407	-0.0140	0.1255	0.0413
0.2904	2.27	0.0556	0.1676	0.0460	0.0537	0.1759	0.0420
0.3466	1.11	0.0072	0.0166	0.0158	0.0120	0.0594	0.0547
0.3466	1.13	0.0072	0.0223	0.0126	0.0053	0.0719	0.0363
0.3466	1.15	-0.0212	0.0249	0.0118	-0.0735	0.0737	0.0371
0.3466	1.17	-0.0787	0.0265	0.0141	-0.2099	0.0736	0.0478
0.3466	1.19	-0.1519	0.0298	0.0166	-0.3584	0.0763	0.0603
0.3466	1.21	-0.2506	0.0301	0.0161	-0.5716	0.0730	0.0618
0.3466	1.23	-0.2095	0.0299	0.0157	-0.4588	0.0682	0.0499
0.3466	1.25	-0.0892	0.0284	0.0237	-0.1957	0.0613	0.0609
0.3466	1.27	-0.0534	0.0271	0.0523	-0.1344	0.0556	0.1040
0.3466	1.29	-0.0085	0.0276	0.0088	-0.0541	0.0544	0.0181
0.3466	1.31	-0.0151	0.0292	0.0145	-0.0794	0.0551	0.0292
0.3466	1.33	0.0967	0.0327	0.0109	0.1158	0.0591	0.0133
0.3466	1.35	0.0759	0.0313	0.0106	0.0665	0.0545	0.0126
0.3466	1.37	0.1024	0.0341	0.0099	0.1042	0.0575	0.0139
0.3466	1.39	0.0589	0.0360	0.0076	0.0227	0.0588	0.0113
0.3466	1.41	0.0537	0.0360	0.0115	0.0065	0.0569	0.0181
0.3466	1.43	0.0407	0.0355	0.0092	-0.0218	0.0546	0.0134
0.3466	1.45	0.0899	0.0383	0.0105	0.0426	0.0575	0.0157
0.3466	1.47	0.1894	0.0413	0.0193	0.1758	0.0606	0.0292
0.3466	1.49	0.2044	0.0443	0.0220	0.1875	0.0634	0.0383
0.3466	1.51	0.2088	0.0447	0.0237	0.1918	0.0628	0.0426
0.3466	1.53	0.2598	0.0416	0.0277	0.2614	0.0572	0.0441
0.3466	1.55	0.1554	0.0407	0.0261	0.1176	0.0551	0.0393
0.3466	1.57	0.0986	0.0439	0.0207	0.0414	0.0584	0.0364
0.3466	1.59	0.0531	0.0393	0.0370	-0.0180	0.0516	0.0358
0.3466	1.61	0.1049	0.0446	0.0212	0.0523	0.0576	0.0341
0.3466	1.63	0.0517	0.0442	0.0146	-0.0137	0.0564	0.0292
0.3466	1.65	0.0532	0.0463	0.0200	-0.0083	0.0582	0.0313
0.3466	1.67	0.0582	0.0484	0.0159	0.0031	0.0602	0.0281
0.3466	1.69	0.0986	0.0521	0.0188	0.0613	0.0640	0.0298
0.3466	1.71	0.1659	0.0491	0.0173	0.1514	0.0597	0.0243
0.3466	1.73	0.1331	0.0516	0.0120	0.1184	0.0622	0.0166
0.3466	1.75	0.1141	0.0586	0.0182	0.1008	0.0700	0.0208
0.3466	1.77	0.0939	0.0584	0.0164	0.0805	0.0690	0.0164
0.3466	1.79	0.0970	0.0560	0.0234	0.0876	0.0657	0.0240
0.3466	1.81	-0.0672	0.0589	0.0207	-0.1017	0.0685	0.0194
0.3466	1.83	0.0648	0.0561	0.0170	0.0520	0.0649	0.0140
0.3466	1.85	0.0517	0.0598	0.0208	0.0381	0.0686	0.0196
0.3466	1.87	0.0327	0.0582	0.0184	0.0171	0.0663	0.0156
0.3466	1.89	0.0923	0.0572	0.0181	0.0862	0.0649	0.0139
0.3466	1.91	0.0840	0.0660	0.0204	0.0778	0.0744	0.0205
0.3466	1.93	0.0989	0.0646	0.0200	0.0958	0.0725	0.0193
0.3466	1.95	0.0146	0.0624	0.0184	0.0029	0.0695	0.0132

0.3466	1.97	0.0277	0.0712	0.0324	0.0193	0.0791	0.0337
0.3466	1.99	0.0482	0.0682	0.0301	0.0431	0.0753	0.0309
0.3466	2.01	-0.0065	0.0599	0.0298	-0.0165	0.0659	0.0281
0.3466	2.03	-0.0380	0.0662	0.0226	-0.0509	0.0725	0.0198
0.3466	2.05	-0.0309	0.0683	0.0424	-0.0427	0.0746	0.0441
0.3466	2.07	0.0638	0.0604	0.0263	0.0605	0.0656	0.0241
0.3466	2.09	0.0340	0.0689	0.0209	0.0282	0.0748	0.0166
0.3466	2.11	0.1000	0.0747	0.0188	0.0995	0.0807	0.0162
0.3466	2.13	-0.0115	0.0739	0.0248	-0.0206	0.0795	0.0243
0.3466	2.15	0.0967	0.0730	0.0165	0.0958	0.0784	0.0116
0.3466	2.17	-0.0701	0.0962	0.0226	-0.0829	0.1030	0.0222
0.3466	2.19	0.1811	0.0980	0.0285	0.1856	0.1047	0.0276
0.3466	2.21	0.0028	0.1015	0.0367	-0.0045	0.1081	0.0364
0.3466	2.23	0.2641	0.1409	0.0657	0.2734	0.1499	0.0685
0.3466	2.25	0.6178	0.4375	0.3743	0.6485	0.4641	0.3925
0.4139	1.11	0.0018	0.0135	0.0196	-0.0032	0.0480	0.0813
0.4139	1.13	-0.0023	0.0166	0.0077	-0.0217	0.0545	0.0256
0.4139	1.15	-0.0607	0.0224	0.0249	-0.1906	0.0674	0.0767
0.4139	1.17	-0.1111	0.0256	0.0109	-0.3019	0.0719	0.0352
0.4139	1.19	-0.1677	0.0306	0.0083	-0.4073	0.0803	0.0366
0.4139	1.21	-0.1845	0.0326	0.0145	-0.4164	0.0802	0.0419
0.4139	1.23	-0.1783	0.0351	0.0089	-0.3954	0.0822	0.0340
0.4139	1.25	-0.0958	0.0338	0.0110	-0.2144	0.0748	0.0279
0.4139	1.27	-0.0612	0.0341	0.0095	-0.1536	0.0722	0.0195
0.4139	1.29	-0.0524	0.0343	0.0115	-0.1439	0.0693	0.0212
0.4139	1.31	0.0171	0.0311	0.0107	-0.0164	0.0600	0.0182
0.4139	1.33	0.0312	0.0305	0.0114	-0.0027	0.0568	0.0183
0.4139	1.35	0.1072	0.0309	0.0140	0.1240	0.0556	0.0231
0.4139	1.37	0.0710	0.0352	0.0112	0.0517	0.0610	0.0218
0.4139	1.39	0.0863	0.0319	0.0100	0.0680	0.0534	0.0175
0.4139	1.41	0.0576	0.0305	0.0129	0.0133	0.0498	0.0208
0.4139	1.43	0.1492	0.0353	0.0112	0.1500	0.0559	0.0236
0.4139	1.45	0.1329	0.0367	0.0117	0.1100	0.0566	0.0249
0.4139	1.47	0.2067	0.0407	0.0223	0.2054	0.0614	0.0409
0.4139	1.49	0.2561	0.0436	0.0262	0.2644	0.0642	0.0504
0.4139	1.51	0.2275	0.0434	0.0249	0.2181	0.0626	0.0457
0.4139	1.53	0.2269	0.0459	0.0282	0.2160	0.0649	0.0593
0.4139	1.55	0.1345	0.0423	0.0228	0.0856	0.0586	0.0455
0.4139	1.57	0.1642	0.0422	0.0229	0.1251	0.0576	0.0408
0.4139	1.59	0.1408	0.0368	0.0251	0.0919	0.0493	0.0334
0.4139	1.61	0.1652	0.0416	0.0238	0.1241	0.0551	0.0371
0.4139	1.63	0.0773	0.0465	0.0331	0.0093	0.0606	0.0488
0.4139	1.65	0.0933	0.0536	0.0186	0.0317	0.0691	0.0355
0.4139	1.67	0.0459	0.0617	0.0269	-0.0235	0.0784	0.0505
0.4139	1.69	0.0196	0.0598	0.0251	-0.0463	0.0749	0.0412
0.4139	1.71	0.1007	0.0569	0.0275	0.0647	0.0706	0.0392
0.4139	1.73	0.0511	0.0535	0.0088	0.0130	0.0658	0.0167
0.4139	1.75	0.0751	0.0598	0.0184	0.0492	0.0728	0.0235
0.4139	1.77	0.0318	0.0539	0.0104	0.0026	0.0648	0.0083
0.4139	1.79	0.0389	0.0515	0.0158	0.0156	0.0615	0.0129
0.4139	1.81	0.0849	0.0545	0.0213	0.0730	0.0645	0.0196
0.4139	1.83	0.0920	0.0508	0.0152	0.0816	0.0597	0.0106
0.4139	1.85	0.0224	0.0586	0.0206	0.0009	0.0684	0.0193
0.4139	1.87	0.0080	0.0563	0.0307	-0.0145	0.0652	0.0316
0.4139	1.89	0.0530	0.0515	0.0166	0.0386	0.0593	0.0103
0.4139	1.91	-0.0357	0.0638	0.0159	-0.0614	0.0729	0.0130
0.4139	1.93	0.0042	0.0611	0.0215	-0.0139	0.0694	0.0182
0.4139	1.95	0.0444	0.0698	0.0164	0.0332	0.0789	0.0133
0.4139	1.97	0.0407	0.0687	0.0165	0.0308	0.0773	0.0148
0.4139	1.99	0.0103	0.0646	0.0252	-0.0017	0.0722	0.0230
0.4139	2.01	-0.0417	0.0611	0.0192	-0.0593	0.0681	0.0137
0.4139	2.03	0.1116	0.0673	0.0196	0.1110	0.0746	0.0153
0.4139	2.05	0.0217	0.0627	0.0174	0.0117	0.0692	0.0117
0.4139	2.07	0.1424	0.0685	0.0230	0.1445	0.0753	0.0216
0.4139	2.09	0.0433	0.0636	0.0215	0.0357	0.0696	0.0182
0.4139	2.11	0.0701	0.0712	0.0196	0.0651	0.0778	0.0134
0.4139	2.13	-0.0011	0.0936	0.0337	-0.0125	0.1019	0.0340
0.4139	2.15	0.1833	0.1676	0.0377	0.1878	0.1819	0.0397
0.4139	2.17	-0.5596	0.4055	0.4146	-0.6159	0.4385	0.4548
0.4139	2.19	-0.0408	0.2508	0.1091	-0.0543	0.2700	0.1189
0.4139	2.21	-0.1581	0.1466	0.0573	-0.1801	0.1575	0.0594
0.4139	2.23	0.0795	0.1694	0.0249	0.0751	0.1818	0.0262
0.4940	1.11	0.0046	0.0158	0.0025	0.0085	0.0550	0.0087
0.4940	1.13	0.0061	0.0286	0.0053	0.0111	0.0917	0.0187
0.4940	1.15	-0.0186	0.0249	0.0053	-0.0607	0.0747	0.0161
0.4940	1.17	-0.0084	0.0286	0.0112	-0.0123	0.0798	0.0342
0.4940	1.19	-0.1660	0.0332	0.0076	-0.4111	0.0885	0.0246
0.4940	1.21	-0.1456	0.0384	0.0099	-0.3282	0.0957	0.0280
0.4940	1.23	-0.0862	0.0334	0.0061	-0.1861	0.0791	0.0159
0.4940	1.25	-0.0851	0.0304	0.0077	-0.1967	0.0688	0.0171
0.4940	1.27	-0.0303	0.0308	0.0080	-0.0867	0.0665	0.0160
0.4940	1.29	0.0407	0.0311	0.0083	0.0478	0.0644	0.0190
0.4940	1.31	0.0362	0.0309	0.0147	0.0231	0.0613	0.0295
0.4940	1.33	-0.0023	0.0284	0.0320	-0.0674	0.0542	0.0615
0.4940	1.35	0.0869	0.0279	0.0143	0.0871	0.0514	0.0235
0.4940	1.37	0.0501	0.0290	0.0138	0.0122	0.0519	0.0268
0.4940	1.39	0.0894	0.0316	0.0148	0.0737	0.0545	0.0296
0.4940	1.41	0.0875	0.0293	0.0145	0.0621	0.0492	0.0252
0.4940	1.43	0.1597	0.0327	0.0171	0.1702	0.0533	0.0326
0.4940	1.45	0.1678	0.0363	0.0197	0.1673	0.0581	0.0379
0.4940	1.47	0.1826	0.0437	0.0236	0.1701	0.0678	0.0491
0.4940	1.49	0.2145	0.0433	0.0293	0.2027	0.0658	0.0562
0.4940	1.51	0.2517	0.0455	0.0301	0.2503	0.0677	0.0590
0.4940	1.53	0.2147	0.0475	0.0259	0.1950	0.0690	0.0564
0.4940	1.55	0.1383	0.0461	0.0262	0.0843	0.0659	0.0501
0.4940	1.57	0.0899	0.0475	0.0254	0.0150	0.0667	0.0494
0.4940	1.59	0.1964	0.0393	0.0335	0.1606	0.0541	0.0387
0.4940	1.61	0.0799	0.0465	0.0271	-0.0007	0.0630	0.0519
0.4940	1.63	0.1128	0.0492	0.0410	0.0430	0.0658	0.0701
0.4940	1.65	0.1807	0.0486	0.0182	0.1337	0.0640	0.0523
0.4940	1.67	0.0464	0.0501	0.0215	-0.0381	0.0651	0.0489
0.4940	1.69	0.1450	0.0422	0.0240	0.0989	0.0542	0.0408
0.4940	1.71	0.1460	0.0474	0.0168	0.1116	0.0602	0.0351
0.4940	1.73	0.0758	0.0462	0.0071	0.0352	0.0580	0.0214
0.4940	1.75	0.0592	0.0477	0.0248	0.0233	0.0593	0.0340
0.4940	1.77	0.1194	0.0451	0.0110	0.1044	0.0555	0.0140
0.4940	1.79	0.1866	0.0463	0.0153	0.1921	0.0564	0.0144
0.4940	1.81	0.0561	0.0478	0.0154	0.0362	0.0578	0.0123
0.4940	1.83	0.1252	0.0530	0.0188	0.1194	0.0635	0.0167
0.4940	1.85	0.0944	0.0603	0.0190	0.0831	0.0717	0.0171
0.4940	1.87	0.0479	0.0513	0.0157	0.0284	0.0605	0.0101
0.4940	1.89	0.0446	0.0540	0.0156	0.0254	0.0632	0.0098
0.4940	1.91	-0.0493	0.0570	0.0244	-0.0819	0.0662	0.0237
0.4940	1.93	0.0405	0.0571	0.0186	0.0241	0.0661	0.0156
0.4940	1.95	-0.0688	0.0684	0.0316	-0.0998	0.0786	0.0324
0.4940	1.97	-0.0262	0.0667	0.0318	-0.0492	0.0761	0.0328
0.4940	1.99	0.1186	0.0659	0.0205	0.1168	0.0749	0.0170
0.4940	2.01	0.0681	0.0668	0.0195	0.0600	0.0756	0.0154
0.4940	2.03	0.0730	0.0904	0.0181	0.0655	0.1018	0.0159
0.4940	2.05	0.1558	0.1044	0.0186	0.1580	0.1169	0.0157
0.4940	2.07	-0.0509	0.1873	0.0889	-0.0732	0.2091	0.0974
0.4940	2.09	0.2465	0.1949	0.1794	0.2581	0.2164	0.1870
0.4940	2.11	0.1068	0.1825	0.0317	0.1026	0.2013	0.0313
0.4940	2.13	0.0717	0.1281	0.0367	0.0643	0.1408	0.0381
0.4940	2.15	0.1060	0.0741	0.0347	0.1017	0.0812	0.0360
0.4940	2.17	-0.0195	0.0812	0.0373	-0.0356	0.0887	0.0385
0.4940	2.19	0.1617	0.1431	0.0749	0.1622	0.1560	0.0811
0.4940	2.21	0.0381	0.2129	0.0173	0.0275	0.2314	0.0175

0.5902	1.11	0.0020	0.0179	0.0028	0.0019	0.0600	0.0088
0.5902	1.13	0.0010	0.0148	0.0151	-0.0046	0.0464	0.0466
0.5902	1.15	-0.0496	0.0263	0.0133	-0.1501	0.0783	0.0374
0.5902	1.17	-0.0197	0.0302	0.0056	-0.0445	0.0845	0.0163
0.5902	1.19	-0.0560	0.0318	0.0061	-0.1209	0.0840	0.0174
0.5902	1.21	-0.1693	0.0362	0.0111	-0.3951	0.0911	0.0275
0.5902	1.23	-0.1352	0.0323	0.0098	-0.3082	0.0772	0.0226
0.5902	1.25	-0.0210	0.0279	0.0097	-0.0527	0.0638	0.0217
0.5902	1.27	-0.0403	0.0264	0.0098	-0.1100	0.0581	0.0177
0.5902	1.29	0.0263	0.0261	0.0102	0.0206	0.0551	0.0187
0.5902	1.31	0.0022	0.0255	0.0132	-0.0459	0.0516	0.0185
0.5902	1.33	0.0480	0.0252	0.0161	0.0276	0.0494	0.0239
0.5902	1.35	0.0918	0.0246	0.0207	0.0972	0.0466	0.0292
0.5902	1.37	0.1433	0.0353	0.0163	0.1789	0.0645	0.0360
0.5902	1.39	0.0938	0.0316	0.0174	0.0786	0.0560	0.0315
0.5902	1.41	0.1201	0.0345	0.0194	0.1150	0.0595	0.0370
0.5902	1.43	0.1357	0.0332	0.0187	0.1292	0.0555	0.0345
0.5902	1.45	0.1573	0.0344	0.0220	0.1486	0.0562	0.0461
0.5902	1.47	0.1655	0.0350	0.0286	0.1403	0.0558	0.0542
0.5902	1.49	0.1654	0.0443	0.0254	0.1201	0.0691	0.0699
0.5902	1.51	0.2397	0.0422	0.0331	0.2245	0.0644	0.0769
0.5902	1.53	0.2413	0.0415	0.0296	0.2267	0.0619	0.0687
0.5902	1.55	0.1548	0.0424	0.0320	0.0980	0.0622	0.0648
0.5902	1.57	0.1923	0.0374	0.0312	0.1506	0.0539	0.0616
0.5902	1.59	0.1614	0.0372	0.0292	0.1024	0.0528	0.0574
0.5902	1.61	0.1906	0.0423	0.0319	0.1389	0.0590	0.0652
0.5902	1.63	0.0994	0.0419	0.0312	0.0098	0.0575	0.0539
0.5902	1.65	0.0771	0.0436	0.0306	-0.0213	0.0591	0.0570
0.5902	1.67	0.1327	0.0485	0.0300	0.0576	0.0648	0.0554
0.5902	1.69	0.1356	0.0532	0.0236	0.0719	0.0701	0.0566
0.5902	1.71	0.2035	0.0436	0.0189	0.1767	0.0566	0.0402
0.5902	1.73	0.1086	0.0436	0.0128	0.0673	0.0560	0.0286
0.5902	1.75	0.1201	0.0441	0.0111	0.0937	0.0560	0.0236
0.5902	1.77	0.1567	0.0431	0.0126	0.1479	0.0543	0.0215
0.5902	1.79	0.0701	0.0448	0.0163	0.0481	0.0557	0.0198
0.5902	1.81	0.1073	0.0486	0.0311	0.0976	0.0600	0.0366
0.5902	1.83	0.1242	0.0483	0.0227	0.1183	0.0590	0.0251
0.5902	1.85	-0.0599	0.0597	0.0258	-0.1058	0.0726	0.0286
0.5902	1.87	0.1426	0.0756	0.0157	0.1400	0.0908	0.0144
0.5902	1.89	0.0606	0.0620	0.0126	0.0425	0.0740	0.0080
0.5902	1.91	-0.0522	0.0906	0.0181	-0.0899	0.1075	0.0171
0.5902	1.93	-0.0776	0.1102	0.0477	-0.1185	0.1300	0.0548
0.5902	1.95	0.0518	0.1281	0.0439	0.0363	0.1497	0.0492
0.5902	1.97	0.4797	0.2449	0.1576	0.5356	0.2851	0.1810
0.5902	1.99	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.5902	2.01	0.0961	0.1445	0.0684	0.0893	0.1656	0.0693
0.5902	2.03	0.0254	0.1277	0.1070	0.0088	0.1456	0.1215
0.5902	2.05	0.1150	0.0919	0.0158	0.1104	0.1044	0.0135
0.5902	2.07	0.0844	0.0839	0.0270	0.0757	0.0947	0.0278
0.5902	2.09	-0.0537	0.0961	0.0180	-0.0798	0.1082	0.0175
0.5902	2.11	0.1232	0.0889	0.0227	0.1190	0.0996	0.0237
0.5902	2.13	0.0954	0.0789	0.0190	0.0877	0.0881	0.0190
0.5902	2.15	0.1562	0.1205	0.0380	0.1557	0.1341	0.0408
0.5902	2.17	0.0007	0.2147	0.2898	-0.0173	0.2379	0.3217
0.7047	1.11	0.0051	0.0327	0.0084	0.0135	0.1055	0.0266
0.7047	1.13	0.0062	0.0263	0.0089	0.0137	0.0801	0.0271
0.7047	1.15	-0.0574	0.0404	0.0075	-0.1701	0.1180	0.0244
0.7047	1.17	-0.0566	0.0331	0.0080	-0.1437	0.0905	0.0215
0.7047	1.19	-0.0529	0.0397	0.0124	-0.1163	0.1032	0.0279
0.7047	1.21	-0.0572	0.0298	0.0050	-0.1192	0.0739	0.0126
0.7047	1.23	-0.0799	0.0310	0.0074	-0.1793	0.0746	0.0192
0.7047	1.25	-0.0411	0.0292	0.0102	-0.1005	0.0669	0.0252
0.7047	1.27	-0.0705	0.0283	0.0106	-0.1768	0.0622	0.0255
0.7047	1.29	0.0407	0.0250	0.0092	0.0532	0.0531	0.0212
0.7047	1.31	0.0241	0.0222	0.0124	0.0006	0.0453	0.0209
0.7047	1.33	0.0393	0.0236	0.0216	0.0125	0.0466	0.0357
0.7047	1.35	0.0877	0.0212	0.0216	0.0908	0.0408	0.0305
0.7047	1.37	0.0971	0.0258	0.0194	0.0940	0.0478	0.0364
0.7047	1.39	0.0907	0.0281	0.0177	0.0722	0.0508	0.0389
0.7047	1.41	0.0874	0.0293	0.0196	0.0576	0.0514	0.0408
0.7047	1.43	0.0981	0.0255	0.0217	0.0654	0.0436	0.0387
0.7047	1.45	0.1138	0.0273	0.0255	0.0760	0.0455	0.0432
0.7047	1.47	0.1798	0.0321	0.0296	0.1626	0.0525	0.0616
0.7047	1.49	0.2018	0.0344	0.0410	0.1717	0.0549	0.0641
0.7047	1.51	0.2146	0.0388	0.0383	0.1781	0.0606	0.0742
0.7047	1.53	0.2259	0.0349	0.0398	0.1987	0.0533	0.0663
0.7047	1.55	0.1798	0.0343	0.0410	0.1293	0.0516	0.0605
0.7047	1.57	0.1928	0.0353	0.0361	0.1464	0.0520	0.0612
0.7047	1.59	0.1612	0.0382	0.0391	0.0954	0.0554	0.0609
0.7047	1.61	0.1738	0.0402	0.0344	0.1086	0.0573	0.0636
0.7047	1.63	0.1480	0.0396	0.0418	0.0669	0.0554	0.0633
0.7047	1.65	0.1852	0.0456	0.0394	0.1152	0.0634	0.0613
0.7047	1.67	0.1937	0.0493	0.0366	0.1297	0.0671	0.0629
0.7047	1.69	0.2319	0.0513	0.0369	0.1909	0.0691	0.0629
0.7047	1.71	0.1407	0.0541	0.0330	0.0858	0.0720	0.0581
0.7047	1.73	0.1912	0.0600	0.0142	0.1695	0.0788	0.0395
0.7047	1.75	0.1220	0.0677	0.0276	0.0910	0.0881	0.0436
0.7047	1.77	0.0808	0.0781	0.0202	0.0495	0.1003	0.0319
0.7047	1.79	0.0925	0.1174	0.0133	0.0765	0.1492	0.0207
0.7047	1.81	0.1657	0.1659	0.0631	0.1737	0.2094	0.0794
0.7047	1.83	0.6374	0.5059	0.4492	0.7634	0.6333	0.5395
0.7047	1.85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.7047	1.87	-0.0823	0.5661	0.0898	-0.1321	0.6911	0.1320
0.7047	1.89	-0.2039	0.1837	0.0907	-0.2784	0.2228	0.1215
0.7047	1.91	-0.0899	0.0822	0.0184	-0.1382	0.0990	0.0202
0.7047	1.93	0.0810	0.0550	0.0195	0.0689	0.0657	0.0210
0.7047	1.95	0.0433	0.0717	0.0490	0.0240	0.0855	0.0573
0.7047	1.97	0.0938	0.0678	0.0315	0.0853	0.0799	0.0356
0.7047	1.99	0.1224	0.0533	0.0239	0.1189	0.0625	0.0259
0.7047	2.01	0.1510	0.0650	0.0191	0.1518	0.0759	0.0198
0.7047	2.03	0.1830	0.0705	0.0301	0.1884	0.0817	0.0334
0.7047	2.05	0.1351	0.0901	0.0255	0.1325	0.1040	0.0276
0.7047	2.07	0.1855	0.1428	0.0545	0.1900	0.1642	0.0622
0.7047	2.09	0.1574	0.3322	0.0902	0.1573	0.3790	0.0981
0.7047	2.11	-0.2264	0.3556	0.1996	-0.2788	0.4035	0.2456
0.8412	1.11	0.0053	0.0081	0.0072	0.0142	0.0248	0.0220
0.8412	1.13	-0.0027	0.0085	0.0045	-0.0107	0.0252	0.0134
0.8412	1.15	-0.0199	0.0116	0.0063	-0.0570	0.0325	0.0173
0.8412	1.17	-0.0405	0.0153	0.0074	-0.1041	0.0416	0.0195
0.8412	1.19	-0.0644	0.0231	0.0047	-0.1497	0.0595	0.0130
0.8412	1.21	-0.0737	0.0230	0.0049	-0.1632	0.0564	0.0122
0.8412	1.23	-0.0395	0.0240	0.0071	-0.0851	0.0569	0.0179
0.8412	1.25	-0.0565	0.0252	0.0077	-0.1355	0.0574	0.0189
0.8412	1.27	-0.0184	0.0226	0.0099	-0.0597	0.0495	0.0185
0.8412	1.29	0.0235	0.0205	0.0100	0.0213	0.0438	0.0185
0.8412	1.31	0.0139	0.0262	0.0134	-0.0153	0.0541	0.0294
0.8412	1.33	0.0599	0.0187	0.0164	0.0583	0.0372	0.0213
0.8412	1.35	0.0733	0.0242	0.0180	0.0699	0.0472	0.0278
0.8412	1.37	0.0967	0.0220	0.0230	0.1001	0.0412	0.0330
0.8412	1.39	0.1083	0.0222	0.0232	0.1127	0.0407	0.0274
0.8412	1.41	0.0979	0.0263	0.0233	0.0851	0.0470	0.0381
0.8412	1.43	0.0856	0.0294	0.0219	0.0539	0.0512	0.0354
0.8412	1.45	0.1366	0.0249	0.0301	0.1271	0.0421	0.0326
0.8412	1.47	0.1398	0.0396	0.0301	0.1109	0.0657	0.0557
0.8412	1.49	0.2367	0.0427	0.0387	0.2443	0.0695	0.0626
0.8412	1.51	0.1869	0.0437	0.0454	0.1515	0.0694	0.0754
0.8412	1.53	0.2401	0.0483	0.0468	0.2364	0.0761	0.0569

0.8412	1.55	0.1558	0.0619	0.0456	0.1076	0.0948	0.0585
0.8412	1.57	0.1820	0.0617	0.0404	0.1451	0.0928	0.0632
0.8412	1.59	0.1918	0.0654	0.0437	0.1525	0.0969	0.0518
0.8412	1.61	0.2115	0.0606	0.0608	0.1743	0.0882	0.0709
0.8412	1.63	0.1711	0.0649	0.0765	0.1098	0.0934	0.0453
0.8412	1.65	0.3786	0.1735	0.1745	0.3995	0.2463	0.1881
0.8412	1.67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.8412	1.69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.8412	1.71	0.2705	0.2520	0.1847	0.2697	0.3413	0.1812
0.8412	1.73	0.0897	0.1092	0.0481	0.0417	0.1458	0.0616
0.8412	1.75	0.0000	0.0820	0.0335	-0.0644	0.1086	0.0459
0.8412	1.77	0.1165	0.0906	0.0413	0.1027	0.1183	0.0571
0.8412	1.79	0.0355	0.0568	0.0305	0.0068	0.0735	0.0408
0.8412	1.81	0.1028	0.0520	0.0226	0.0981	0.0667	0.0292
0.8412	1.83	0.0964	0.0402	0.0156	0.0891	0.0510	0.0198
0.8412	1.85	0.1127	0.0432	0.0200	0.1088	0.0545	0.0251
0.8412	1.87	0.1107	0.0575	0.0199	0.1062	0.0717	0.0245
0.8412	1.89	0.0664	0.0601	0.0219	0.0511	0.0743	0.0267
0.8412	1.91	-0.0004	0.0598	0.0121	-0.0303	0.0734	0.0134
0.8412	1.93	0.0698	0.0565	0.0205	0.0566	0.0689	0.0240
0.8412	1.95	0.0689	0.0947	0.0155	0.0564	0.1144	0.0174
0.8412	1.97	0.1359	0.0829	0.0160	0.1369	0.0997	0.0175
0.8412	1.99	0.0594	0.1325	0.0474	0.0450	0.1583	0.0560
0.8412	2.01	0.2054	0.1258	0.1113	0.2175	0.1489	0.1256
0.8412	2.03	0.2191	0.1367	0.1899	0.2335	0.1615	0.2029

I. SUPPLEMENTAL MATERIAL – FIGURE FOR RESULTS ON g_1^p

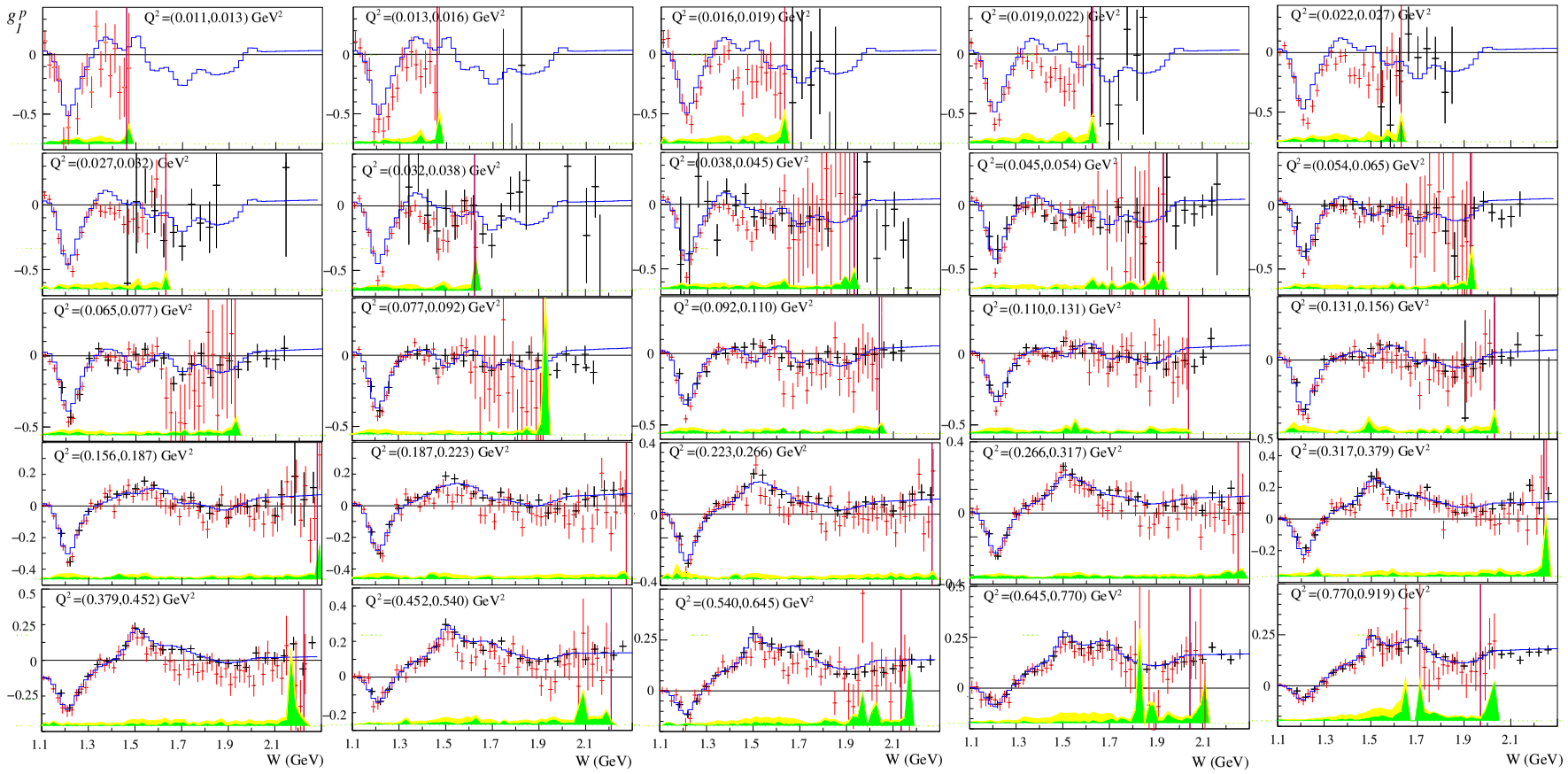

FIG. 1. Results on g_1 of the proton (red crosses) vs invariant mass W from this work. The error bars are statistical. The green and the yellow bands show the experimental and the parameterization uncertainties, respectively. The results are compared to a parameterization of previous world data (blue curve) and results from a previous experiment carried out in Jefferson Lab's Hall B (black crosses) (see Ref. [12] of the main document.)