47.9 ± 1.7^0, 137.9 ± 1.3^0, 27.5 ± 0.6^0, 2.0 ± 0.5^0 , for real part of the phase; - 12.1 ± 3.1^0, 22.1 ± 1.7^0, 16.3 ± 1.1^0, 3.2 ± 0.5^0, 0 ± 0.4^0 , for imaginary part of the phase. During the fitting of initial phases by ten iterations and at L=0÷8 on our program there were obtained:

$\chi^2 = 128.18$ $\sigma_R = 383.70$ $\sigma_S = 185.74$

104.66 39.78 147.16 12.10 0.77 - for real part of phase

15.83 11.48 5.52 1.20 0.00 - for imaginary part of phase

θ	σ_e	σ_t	χ_i^2	θ	σ_e	σ_t	χ_i^2
28.0	67.9	68.09	0.09	60.0	39.5	47.25	1041.82
32.0	26.0	25.96	0.01	64.0	26.0	22.15	457.58
36.0	13.5	12.90	11.09	68.0	5.0	4.70	19.94
40.0	19.7	21.26	60.70	72.0	5.0	5.69	103.86
44.0	41.6	41.31	0.95	76.0	30.7	28.25	185.40
48.0	65.2	61.83	74.68	80.0	66.0	65.72	0.95
52.0	74.7	72.39	33.32	84.0	103.8	104.14	0.96
56.0	70.6	67.02	55.53	88.0	127.5	128.27	4.08

Here θ- scattering angle, σ_e - experimental differential cross-section, σ_t - theoretical cross-section and

χ_i^2 - for each point. The value of averaged quantity χ^2 is comparatively great, that is caused by a smallness of experimental errors of differential cross-sections definition.

Reference:

1. Chien W., Brown R. // Phys. Rev., 1975, v.C10, p.1767-1784.
2. Burtebaev N, Duysebaev A. et all. // The report at the 30-th Conference on Nuclear Spectroscopy and structure of Atomic Nucleus, Leningrad, "Nauka",1980, p.393. (in Russian).
3. Darriulat P., Igo G., Pugh G. // Phys. Rev., 1965, v. 137, p. B315.

ATOMIC NUCLEI AND NUCLEAR REACTIONS. THEORY AND APPLICATION.

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The short description of the book preparation by the collective authors from Ukraine, Kazakhstan, Uzbekistan and Egypt is given. The present book is the expanded course of lectures on the theory of nuclei, nuclear reactions and their applications delivered by the authors for a number of years in the Ukrainian National University, Aktubinsk State

University of the Kazakhstan Republic, Tashkent National University, Samarkand and Termez State Universities of Uzbekistan Republic, Egyptian National Universities (Al-Az'har, Menoufeya, Suez-Canal and Tanta) and the Institute of Nuclear Physics of the Academy of Sciences of the Republic of Uzbekistan. The lectures present foundations of the modern concepts of the structure of nuclei, on the nature of nuclear processes and nuclear transformations. Main attention in the book was paid to the presentation of the basics and some modern achievements in the field of the theory of nuclei and nuclear reactions. A number of problems was investigated in original works and were not presented in the physics textbooks. The book presents the non-relativistic theory of nuclear reactions, questions of relativistic nuclear physics were not considered here. Non-relativistic theory of nuclear reactions is based on the notions of collision matrix or S-matrix. In absence of consequent microscopic theory, the scattering matrix can be found phenomenological based on definite assumptions on the character of nuclear interactions. Modern applications of nuclear reactions for the development of nuclear methods of analysis are presented. The delayed and nuclear techniques with nuclear reactor, accelerators and radioisotopic sources are considered.

The book is designed as a textbook for bachelor and postgraduate students of physical faculties of universities and engineering-physical institutions, lecturers and researchers, working in the field of nuclear physics. The book gives an up-to-date list of references on nuclear reaction theory and application. Authors would be grateful for any practical or constructive comments and remarks.

DEFINITION A PARITY(RATIO) WITH BETWEEN GRAVITATIONAL AND ELECTROMAGNETIC ENERGY AND MOMENT BY PULSES IN A PROTON

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The equality (7) allows to establish the certain parity(ratio) between gravitational and electromagnetic energy in a proton. For energy it is possible to write down

$$U = -\frac{K_1 \Gamma M^2}{R}, W = -\frac{K_2 e^2}{4\pi\varepsilon_0 R},$$

Where K1, K2- coefficients, weights, dependent on distribution, or charge accordingly; for a case of homogeneous distribution K1 = K2 = 0,6. Believing K1 ≈ K2, with the help (7) is received

$$\frac{U}{W} \approx \frac{M}{M_E} = 1836{,}15$$