Kolosov, Gury Vasilievich | Encyclopedia.com

(*b*. Ust, Novgorod guberniya, Russia, 25 August 1867; *d*. Leningrad, U.S.S.R., 7 November 1936)

theoretical physics, mechanics, mathematics.

Kolosov graduated from the Gymnasium in St. Petersburg with a gold medal in 1885 and in that year joined the faculty of physics and mathematics of St. Petersburg (now Leningrad) University. He graduated from the university in 1889 and remained there to prepare for a teaching career.

In 1893 Kolosov passed his master's examination and was named director of the mechanics laboratory of the university and teacher of theoretical mechanics at the St. Petersburg Institute of Communications Engineers. From 1902 to 1913 he worked at Yurev (now Tartu) University, as privatdocent and then as professor. In 1913 he returned to St. Petersburg, where he became head of the department of theoretical mechanics at the Electrotechnial Institute; in 1916 he also became head of the department of theoretical mechanics at the university. Kolosov worked in these two institutions until the end of his life. In 1931 he was elected a corresponding member of the Academy of Sciences of the U.S.S.R.

Kolosov's scientific work was devoted largely to two important areas of theoretical mechanics: the mechanics of solid bodies, with which he began his career; and the theory of elasticity, on which he worked almost exclusively from 1908.

Kolosov's first important achievement in the mechanics of solid bodies was his discovery of a new "integrated" case of motion for a top on a smooth surface, related to the turning of a solid body about a fixed point. This result was published by Kolosov in 1898 in "Ob odnom sluchae dvizhenia tyazhelogo tverdogo tela,. . ." ("On One Case of the Motion of a Heavy Solid Body Supported by a Point on a Smooth Surface"). His basic results in the mechanics of solid bodies are discussed in his master's dissertation, "O nekotorykh vidoizmeneniakh nachala Gamiltona . . ." (On Certain Modifications of Hamilton's Principle in its Application to the Solution of Problems of Mechanics of Solid Bodies" [1903]).

Kolosov's main results in the theory of elasticity are contained in his classic work *Ob odnom prilozhenii teorii funktsy kompleksnogo peremennogo* . . . ("On One Application of the Theory of Functions of Complex Variables to the Plane Problem of the Mathematical Theory of Elasticity," 1909). Kolosov's most important achievement was his establishment of formulas expressing the components of the tensor of stress and of the vector of displacement through two functions of a complex variable, analytical in the area occupied by the elastic medium. In 1916 Kolosov's method was applied to heat stress in the plane problem of the theory of elasticity by his student N. I. Muskhelishvili. Specialists in the theory of elasticity still use Kolosov' formulas.

Many of kolosov's more than sixty works in mechanics and mathematics were published in major German, English, French, and Italian scientific journals.

BIBLIOGRAPHY

I. Original Works. Kolosov' most important works are "Ob odnom sluchae dvizhenia tyazhelogo tverdogo tela, opirayushchegosya ostriem na gladkuyu ploskost" ("On One Case of the Motion of a Heavy Solid Body Supported by a Point on a smooth Surface"), in *TrudyObshchestva lyubiteley estestvoznania*, Otd. fiz. nauk, **9** (1898), 11-12; O *nekotorykh vidoizmeneniakh nachala Gamiltona v primenenii K resheniyu voprosov mekhaniki tverdogo tela* ("On Certain Modifications of Hamilton's Principle in Its Application to the Solution of Problems of Mechanics of Solid Bodies"; St. Petersburg, 1903); Ob *odnom prilozhenii teorii funktsy kompleksnogo peremennogo k ploskoy zadache matematicheskoy teorii uprugosti* ("On One Application of the Theory of Functions of Complex Variables to the Plane Problem of the Mathematical Theory of Elasticity"; Yurev [Tartu], 1909); and *Primenenie kompleksnoy peremennoy k teorii uprugosti* ("Application of the Complex Variable to the Theory of Elasticity"; Moscow-Leningrad, 1935).

II. Secondary Literature. See N. I. Muskhelishvili, "Gury Vasilievich kolosov," in *Uspeckhi matematicheskidh nauk*, no. 4 (1938), 279-281; and G. Ryago, "Gury Vasilievich Kolosov," in *Uchenye zapiski Tartuskogo gosudarstvennogo universiteta*, no. 37 (1955), 96-103.

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