Biographical Encyclopedia of Astronomers

Cosserat, Eugène-Maurice-Pierre

Born Amiens, Somme, France, 4 March 1866

Died Toulouse, Haute-Garonne, France, 31 May 1931

In addition to his long tenure as director of the Toulouse Observatory, Eugène Cosserat was noted for his contributions as a geometer and in analytical mechanics, particularly in the theory of elasticity and surface deformation. Educated first in Amiens, Cosserat entered the École Normale Supérieure [ENS] in Paris at the age of only 17. He was

Appointed to the observatory in Toulouse in 1886 after his graduation from ENS. At Toulouse, Cosserat participated in an observatory routine that was typical of 19th-century professional astronomy, particularly in France, and included many hours of meridian observations and reductions of stellar and planetary positions. In the first part of his career he also made physical observations of double stars, planets, and comets

Cosserat's main interests, however, were mathematical and theoretical rather than practical astronomy. His doctoral dissertation, defended in 1888, just two years after his graduation from ENS, considered infinitesimal properties of space generated by circles, an extension of Julius Plücker's concept of generation by means of straight lines. Cosserat's first appointment on the faculty of science at the University of Toulouse, in 1896, was as professor of differential calculus. It was not until 1908 that Cosserat was appointed to the chair of astronomy at Toulouse, thereby becoming director of the observatory. He held that position for the rest of his life. Described as "a reserved, kind man and a diligent worker," Cosserat was one of the driving forces in the University of Toulouse faculty for 35 years

An international project, the *Carte du Ciel*, formed the principal work of the Toulouse Observatory during Cosserat's tenure. Cosserat participated in the formulation of the plans for this undertaking. Under his personal supervision, the observatory staff completed their assigned zone (+10° to +5°) of meridian observations, the exposure of 1,080 photographic plates, and the computations necessary to reduce the results to a catalog. The published catalog and map that resulted from this effort represented 10% of the completed work in the *International Carte du Ciel*, an effort involving a total of 24 observatories around the world. The proper motions of stars formed another active area of Cosserat's work

In his later theoretical work, Cosserat studied the deformation of surfaces, which led him to a theory of elasticity in collaboration with his brother François, the chief engineer of the French service for bridges and roads. Cosserat also worked on extending mechanics, based on Euclidean laws, into an original and coherent theory. However, his work in this area, although important at the time, was overtaken by the theory of relativity and other advances in theoretical physics.

Although he was not living in Paris, Cosserat was elected to the Académie des sciences in 1919 and, four years later, to the Bureau des longitudes as a nonresident, corresponding member of these organizations.

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