

# Frenet, Jean-Fréd | Encyclopedia.com

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(b. Périgueux, France, 7 February 1816; d. Périgueux, 12 June 1900)

*mathematics.*

Frenet was the son of Pierre Frenet, a *Perruquier*. In 1840 he entered the École Normale Supérieure and later studied at the University of Toulouse, where he received the doctorate for the thesis *Sur les fonctions qui servent à déterminer l'attraction des sphéroïdes quelconques. Programme d'une thèse sur quelques propriétés des courbes à double courbure* (1847). The latter part of the thesis was subsequently published in the *Journal de mathématiques pures et appliquées* (1852) and contains what are known in the theory of space curves as the Frenet-Serret formulas. Frenet, however, presents only six formulas explicitly, whereas Serret presents all nine. Frenet subsequently explained the use of his formulas in "Théorèmes sur les courbes gauches" (1853).

After a period as a professor in Toulouse, Frenet went to Lyons, where in 1848 he became professor of mathematics at the university. He was also director of the astronomical observatory, where he conducted meteorological observations. He retired in 1868 with the title of honorary professor and settled at Bayot, a family estate in his native Périgueux. Unmarried, he lived quietly with a sister until his death.

Frenet's constantly revised and augmented *Recueil d'exercices sur le calcul infinitésimal* (1856) was popular for more than half a century. It contains problems with full solutions and often with historical remarks

Frenet was a man of wide erudition and a classical scholar who was respected in this community, but his mathematical production was limited.

## BIBLIOGRAPHY

Frenet's best-known works are *Sur les fonctions qui servent à déterminer l'attraction des sphéroïdes quelconques. Programme d'une thèse sur quelques propriétés des courbes à double courbure* (Toulouse, 1847); "Sur quelques propriétés des courbes à double courbure," in *Journal de mathématiques pures et appliquées*, 17 (1852), 437–447; "Théorèmes sur les courbes gauches," in *Nouvelles annales de mathématiques*, 12 (1853), 365–372; and *Recueil d'exercices sur le calcul infinitésimal* (Paris, 1856; 7th ed., 1917).

Minor mathematical papers are "Note sur un théorème de Descartes," in *Nouvelles annales de mathématiques*, 13 (1854), 299–301; "Sur une formule de Gauss," in *Mémoires de la Société des sciences physiques et naturelles de Bordeaux*, 6 (1868), 385–392. Meteorological observations are in *Mémoires de l'Académie impériale de Lyon, Classe des sciences*, 3 (1853), 177–225; 6 (1856), 263–326; and 8 (1858), 73–121, continued afterward by A. Drian

An obituary of Frenet is in *L'avenir de Dordogne* (17 June 1900).

D. J. Struik