

1116-01-257

Tom Archibald* (tarchi@sfu.ca). *Riemann's Model of Nobili's Rings.*

In 1825, Leopoldo Nobili observed coloured rings on a metal plate that had been coated with an electrolyte, a current being passed through the liquid from a point electrode to the plate. The phenomenon attracted the attention of several researchers, among them Emil du Bois-Reymond, Edmond Becquerel, and Bernhard Riemann. In this paper we discuss the differences between the models they employed, their relationship to contemporary mathematico-physical theory, and their relation to experiment. Riemann's work shows one of the ways in which we observe directly the influence of his studies with Dirichlet, and indirectly the influence of Fourier. It also provides an early example of a method for modelling a problem with a partial differential equation that was to become standard, in part via Riemann's lectures. (Received August 18, 2015)