DataLab & Geometry seminar

SYNGE’S GEOMETRIC MECHANICS AND KINETIC THEORY

SPEAKERS:
John Stalker (School of Mathematics at Trinity College, Dublin)
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DATE & VENUE:
21 October 2019 - 12:00 // Aula Naranja, ICMAT

ORGANISERS: ICMAT-SPOR and ICMAT Geometry seminars

ABSTRACT: There are many geometric reformulations of mechanics. Synge developed one in 1954 which has been largely ignored since. Synge based it on Hamilton’s formulation of optics and seems to have intended it primarily as a way of systematising semi-classical arguments in quantum mechanics. I will first explain Synge’s reformulation and then show how it provides an elegant foundation for kinetic theory, whether classical, special relativistic or general relativistic, with or without collisions.