

Frankfurter Seminar

Kolloquium des Instituts für Mathematik

Sommersemester 2023

07. Juni 2023 um 16:45 Uhr

Carla Cederbaum (Universität Tübingen)

Coordinates are messy in General (Relativity)

In General Relativity, one is interested in “asymptotically Euclidean” manifolds, that is, manifolds that look almost like Euclidean space outside some compact set. For such manifolds, one is interested in understanding asymptotic geometric invariants such as their “mass” and “center of mass”. To study the latter, one usually assumes the existence of so-called “Regge-Teitelboim coordinates” on the asymptotic “end” of the manifold.

After an introduction into all relevant notions and concepts, in particular to the geometric modeling of the center of mass, we will give explicit examples of asymptotically Euclidean manifolds which do not possess any such Regge-Teitelboim coordinates. We will also explain the consequences these findings have for the definition of the center of mass. This talk is based on joint work with Christopher Nerz, with Anna Sakovich, with Melanie Graf and Jan Metzger.

Tee ab 16:15 Uhr

Robert-Mayer-Straße 10 | Raum 711

Ginkgo-Seminar 15:15 - 16:00 Uhr

Herr Léo Mathis

Teilnahme nur für Studierende, Promovierende und Postdocs

Tee 16:15 - 16:45 Uhr

