

Eugene Wigner Colloquium

joint event of GRK 1558 and SFB 910



Prof. Bernd Krauskopf

University of Auckland, New Zealand

“A geometric perspective on the route to chaos in the Lorenz system”

This talk considers the transition from simple to chaotic dynamics in the well-known Lorenz system. It is organised by two global bifurcations: a homoclinic bifurcation of the origin and a heteroclinic connection between the origin and a saddle periodic orbit. Our focus is on the overall organisation of phase space during this transition. We compute two-dimensional global invariant manifolds of the origin and of saddle periodic orbits and their intersection sets with a suitable sphere. In this way, we are able to give a characterisation of the topological changes that are associated with the creation of pre-turbulent dynamics and the emergence of the chaotic Lorenz attractor.

Thursday, 29.10.15 · 16:15h · EW 202

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GRK1558
research training group