Weyl Connections and Gaussian Thermostats

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Abstract

Gaussian Thermostats were introduced by Hoover in 1985. It turns out they are geodesic flows of Weyl connections. If the sectional curvatures of the Weyl connection are negative then the system has some hyperbolic properties, weaker than Anosov (except in dimension 2).

In search of homogeneous Weyl connections with non-positive curvature we establish certain rigidity, stronger than in the Riemannian case. The latest paper on the subject can found at arXiv:1506.08176