

Oberseminar Geometrie	Wednesday 13th November 2013
Department of Mathematics	10:20–12:00
University of Fribourg	Seminar room, Math. II (Lonza)

ANDREA SEPPI (Pavia)

‘Infinitesimal deformations of hyperbolic metrics on a surface and flat Lorentzian structures’

A maximal globally hyperbolic flat Lorentzian manifold M is a 3-manifold endowed with a flat pseudo-Riemannian metric (of signature $(2,1)$) with some good properties related to causality. For example, M is homeomorphic to $S \times \mathbb{R}$, where S is a closed surface of genus $g > 1$. We will survey some classification results of such space-times, with a prescribed topology, due to Mess. In particular, their moduli space can be identified to the tangent bundle of Teichmüller space of the closed surface S . We will recover this identification in a different way by means of geometric differential techniques, which enable to extend the previous results to the case of space-times and surfaces containing cone singularities.