DIFFERENTIAL GEOMETRY/PDE SEMINAR

Wednesday, December 1, 2004
Padelford C-36
3:50 pm
Jet isomorphism theorem in conformal geometry

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Twenty years ago, Fefferman and Graham introduced a method of constructing local conformal invariants of a n-dimensional manifold via a Ricci-flat Lorentz metric on a manifold of dimension n+2, which is called the ambient metric. When n is odd, the ambient metric contains all information of the conformal structure in the sense that the space of the jets of the conformal structures and the space of the jets of the curvature of the ambient metrics are isomorphic (equivariant under the action of the structure group). When n is even, the construction of the ambient metric is obstructed in finite jets and the isomorphism above has meaning only up to n-th jets. In this talk, I will explain how to construct the isomorphism beyond the obstruction by using a linearised model. This is an interim report on a project with Robin Graham.

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