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A formal Riemannian structure on the space of conformal metrics and some applications

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In this talk *I will present some results from project with J. Streets (UC-Irvine)*, in which we define a formal Riemannian metric on the set of metrics in a conformal class with positive (or negative) curvature. In the case of surfaces, this metric corresponds to the metric defined in the Kahler setting. I will then talk about extensions to higher dimensions, especially 4-d, in which this construction has some interesting applications to the fully nonlinear Yamabe problem and other geometric variational problems.

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