

EXTREMAL SASAKIAN METRICS ON S^3 -BUNDLES OVER RIEMANN SURFACES

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ABSTRACT. My talk is based on joint ongoing work with Christina Tønnesen-Friedman. I begin the talk by giving a brief general discussion about Sasakian geometry and extremal structures in particular. I want to focus on several foundational problems:

- (1) Given a manifold determine how many contact structures of Sasaki type there are.
- (2) Given an isotopy class of contact structures determine the space of compatible extremal Sasakian structures.
- (3) Given extremal Sasakian structures when do they have constant scalar curvature?

We describe how to address these problems on S^3 -bundles over Riemann surfaces Σ_g of arbitrary genus g .

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