



*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Chern-Simons theory on loop spaces and smooth homotopy type of circle actions on 5-manifolds

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Abstract

We develop a Chern-Simons theory on the loop space of a Riemannian manifold. These classes use Wodzicki residue of the connection and the curvature forms of the L^2 connection and H^1 connection on the loop space, as those forms take values in pseudo-differential operators. We apply this Chern-Simons class to show the infiniteness of the 1st homotopy class of diffeomorphism groups on certain compact 5-manifolds.

Date: January 27, 2015 (Tuesday)

Time: 4:30 – 5:30pm

Place: Room 210, Run Run Shaw Bldg., HKU

All are welcome