

SCMS Seminar



HIGHER RHO INVARIANT, ITS DEFINITION AND COMPUTATION

Speaker: Dr. Hongzhi Liu
SCMS

Time: 10:30 a.m.-11:00 a.m., Tuesday, December 19, 2017

Venue: Room 2213, East Guanghua Tower (Main), Fudan University

Abstract: We construct a map from topology to analysis, called higher rho map. This map can be applied to solve important problem in classification theory of manifolds and moduli spaces of positive scalar curvatures. Our construction uses the smooth structure and this has the advantage of making concrete computation accessible. Now we are in the process of developing a method of computing higher rho invariant for fiber bundles.

$$\Delta y_i = \int_{x_i}^{x_{i+1}} y' dx - \left(\sum_{j=1}^{i+1} a_{ij} x_j^{(k)} + \sum_{j=i+1}^n a_{ij} x_j^{(k)} \right)$$
$$\int_{x_k}^{x_{k+1}} f(x, y) dx = \int_{x_k}^{x_{k+1}} y' dx = y(x)$$
$$-\sqrt{(y_n + 0.5\tau k_1)^2 + (t_n + 0.5\tau)^2}$$