Higher order Riemann Hilbert correspondence

Aldo Witte
University of Antwerp (Belgium)

aldo.witte@uantwerpen.be

Abstract

In this talk we will study a higher version jet version of the Riemann-Hilbert correspondence. The classical Riemann-Hilbert correspondence relates linear representations of the fundamental group of manifold with flat vector bundles over the manifold. Instead of linear representations we will study representations which are polynomial in nature. This leads to the discovery of the notion of a k-jet of foliation, a distribution which is only involutive up to order k. We will then show that these k-jets of foliations can be used to classify a certain group of Lie algebroids arising in singular symplectic geometry. Joint work with Alvaro del Pino and Francis Bischoff