



The Hong Kong University of Science & Technology

Department of Mathematics

PhD Student Seminar

**Towards a Construction of Principle Series of
Loop Groups**

By

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Abstract

In this seminar, we will construct a representation of a central extension of loop group $SSL_n(\mathbb{R}((t)))$, where $\mathbb{R}((t))$ is a field of Laurent power series over the real number field \mathbb{R} . The underlying space of representation consists of functions on $\mathbb{R}^n((t))$ that is periodic under the translation by elements in $\mathbb{R}^n[[t]] \subset \mathbb{R}^n((t))$, so it is a certain subspace of functions on $\mathbb{R}^n((t)) / \mathbb{R}^n[[t]] = \mathbb{R}^n[t^{-1}] t^{-1}$. The operators appear in our representation are integral operators. The corresponding representation of affine Lie algebra is an infinite sum of quadratic differential operators with a non-local operator.

Date: Friday, 4 May 2018

Time: 3:00 p.m.- 4:00 p.m.

Venue: Room 4475 (near lift 25, 26)

All are welcome!