Lie Groups and Representation Theory Seminar at the University of Tokyo

(Joint seminar with Topology Seminar)

DATE   December 2 (Tue), 2008, 17:00–18:00

PLACE   Room 056, Graduate School of Mathematical Sciences

SPEAKER   **Masahiko Kanai (**   **)** (Nagoya University)

TITLE   Vanishing and Rigidity (   )

ABSTRACT   The aim of my talk is to reveal an unforeseen link between the classical vanishing theorems of Matsushima and Weil, on the one hand, andrigidity of the Weyl chamber flow, a dynamical system arising from a higher-rank noncompact Lie group, on the other.

The connection is established via "transverse extension theorems": Roughly speaking, they claim that a tangential 1-form of the orbit foliation of the Weyl chamber flow that is tangentially closed (and satisfies a certain mild additional condition) can be extended to a closed 1-form on the whole space in a canonical manner. In particular, infinitesimal rigidity of the orbit foliation of the Weyl chamber flow is proved as an application.