

# Lie Groups and Representation Theory Seminar at the University of Tokyo

リ一群論・表現論セミナー

- DATE May 24 (Tue), 2011, 16:30–18:00
- PLACE Room 126, Graduate School of Mathematical Sciences
- SPEAKER **Jun-ichi Mukuno** (棕野純一) (Nagoya University)
- TITLE Properly discontinuous isometric group actions on inhomogeneous Lorentzian manifolds
- ABSTRACT If a homogeneous space  $G/H$  is acted properly discontinuously upon by a subgroup  $\Gamma$  of  $G$  via the left action, the quotient space  $\Gamma \backslash G/H$  is called a Clifford–Klein form. In 1962, E. Calabi and L. Markus proved that there is no infinite subgroup of the Lorentz group  $O(n+1, 1)$  whose left action on the de Sitter space  $O(n+1, 1)/O(n, 1)$  is properly discontinuous. It follows that a compact Clifford–Klein form of the de Sitter space never exists. In this talk, we present a new extension of the theorem of E. Calabi and L. Markus to a certain class of Lorentzian manifolds that are not necessarily homogeneous.