Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

DATE November 25 (Tue), 2008, 16:30–18:00

PLACE Room 126, Graduate School of Mathematical Sciences

SPEAKER **Taro Yoshino (吉野太郎)** (Tokyo Institute of Technology)

TITLE Proper $\mathbb{R}^2$-actions on $\mathbb{R}^n$ and their periodicity

ABSTRACT Consider $\mathbb{R}^2$ actions on $\mathbb{R}^n$ which is free, affine and unipotent.
Our concern here is to answer the following question:
"Does the quotient topology admits a manifold structure?"
Under some weak assumption, we classify all actions up to conjugate, and give a complete answer to the question.
If Lipsman's conjecture were true, all of the answer should be affirmative.
But, we shall find a unique action which gives a negative answer for each $n \geq 5$. And, we also find a periodicity on such counterexamples.
As a key lemma, we use "proper analogue" of the five lemma on exact sequence.