

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

## リー群論・表現論セミナー

DATE May 17 (Tue), 2022, 17:00–18:00

PLACE Online

SPEAKER **Takashi SATOMI** (里見貴志) (The University of Tokyo)

TITLE Estimate of the optimal constant of convolution inequalities on unimodular locally compact groups  
ユニモジュラー局所コンパクト群上の畳み込み不等式の最適定数の評価

ABSTRACT Some convolution inequalities (Young's inequality, the reverse Young's inequality, the Hausdorff–Young inequality) known for a long time on  $\mathbb{R}$  can be generalized for any unimodular locally compact group. In this seminar, we estimate the optimal constants (the ratio of both sides such that these inequalities are optimal) of these inequalities from above and below, and discuss that these estimates are the best for  $G = \mathbb{R}$ .

$\mathbb{R}$  上で古くから知られている畳み込み不等式 (Young の不等式・逆 Young の不等式・Hausdorff–Young の不等式) は任意のユニモジュラー局所コンパクト群  $G$  上に一般化できる。本セミナーではこれらの不等式の最適定数 (不等式が最適となるような両辺の比) の上下からの評価を与え、これらの評価は  $G = \mathbb{R}$  のときに最良となることについて説明する。