

第110回

附属社会創造数学センター主催

北大MMCセミナー

Date: 2020年10月23日(金) 16:30~18:00

Speaker: 石毛 和弘 氏 (東京大学大学院数理科学研究科)

ISHIGE Kazuhiro (Tokyo University)

Place: 電子科学研究所 中央キャンパス総合研究棟2号館

5F北側講義室(北12条西7丁目)

Title: New characterizations of log-concavity

Abstract:

We introduce a notion of $\$F\$$ -concavity which largely generalizes the usual concavity.

By the use of the notions of closedness under positive scalar multiplication and closedness under positive exponentiation we characterize power concavity and power log-concavity among nontrivial $\$F\$$ -concavities, respectively. In particular, we have a characterization of log-concavity as the only $\$F\$$ -concavity which is closed both under positive scalar multiplication and positive exponentiation. Furthermore, we discuss the strongest $\$F\$$ -concavity preserved by the Dirichlet heat flow, characterizing log-concavity also in this connection. This is a joint work with Professor Paolo Salani (Univ. of Florence) and Asuka Takatsu (Tokyo Metropolitan Univ.).