

# MEAN ERGODIC OPERATORS ON BANACH AND FRÉCHET LATTICES

Mert ÇAĞLAR

İstanbul Kültür University  
Department of Mathematics and Computer Science

**Abstract:** It is well-known, by the classical mean ergodic theorem, that if  $E$  is a reflexive Banach space then every power-bounded operator  $T : E \rightarrow E$  is mean ergodic. An old problem in Banach space theory, originally posed by L. Sucheston in 1975, which is still unresolved is whether or not the converse is true. After R. Zaharopol's partial result in 1986 concerning Dedekind  $\sigma$ -complete Banach lattices, E. Emel'yanov succeeded in answering Sucheston's question in the affirmative for arbitrary Banach lattices in 1997. No information in the setting of locally convex-solid Riesz spaces had ever been available until 2011, when J. Bonnet, B. de Pagter and W.J. Ricker generalized Emel'yanov's result to Fréchet lattices. Addressing the solutions to the aforementioned problems constitutes the subject matter of this expository talk.

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