New results and applications of the extrapolation theory

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Abstract

In 1951, Yano proved that if T is a sublinear operator such that

$$T : L^p(\mu) \to L^p(\mu)$$

is bounded with constant $1/(p-1)^m$ with μ a finite measure, then

$$T : L(logL)^m(\mu) \to L^1(\mu)$$

is bounded.

Since then, a theory called "Extrapolation theory" has been developed and many interesting results have been proved. In particular, it is very useful to obtain end-point estimates.

The purpose of this talk is to give a sight of the latest results in this theory together with some new applications of it.