MATEMATISKA INSTITUTIONEN
STOCKHOLMS UNIVERSITET
Avd. Matematik

SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 30 september kl. 10:00-11:00 presenterar Ingvar Ziemann sitt arbete "On Portfolio Theory and Fractals" (15 högskolepoäng, grundnivå).

Handledare: Yishao Zhou

Plats: Sal 32, hus 5, Kräftriket

Sammanfattning: We study optimal portfolio theory through a fractal framework in the presence of heavy tails and autocorrelated increments (Noah and Joseph effects). We show key results from the estimation of fractal dimensions and develop thereupon by proving the novel result that the Box-Counting dimension of a portfolio is concave. In order to illustrate the impact of the fractal dimension of return series a short exposition on fractional Brownian motion and Lévy stable processes is also rendered. We also introduce key concepts from optimization theory, portfolio theory and fractal geometry which are necessary to understand our approach, which to the best of our knowledge is new.

Alla intresserade är välkomna!