BOURGAIN-TALAGRAND INEQUALITY AND TIME SERIES IMPUTATION

ABSTRACT. Let $f : \mathbb{Z}_N \to \mathbb{C}$ and suppose that the values $\{f(x)\}_{x\in M}$ are missing. Under what reasonable assumptions can we recover the missing values with high accuracy? The imputation problem was previously studied in detail using Logan's L^1 minimization combined with Bourgain-Talagrand type inequalities. The main purpose of this talk is to improve and extend these results. We will also briefly revisit Logan's classical noise removal procedure and look at a series of numerical experiments that demonstrate the presence of structure in large values of a forecastable time series.