Approximate Support Recovery: Bounds

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In [1], an information-theoretic model of massive uncoordinated multiple access was introduced and a random coding bound was obtained that can be applied in both asymptotic and non-asymptotic regimes. An improvement for the asymptotic regime was proposed in [2] using Gordon's lemma on the minimum of a Gaussian process. In this work, we are going to prove a non-asymptotic analogue of the second bound that behaves similarly in the asymptotic regime.

Primary author: LIZIURA, Dmitrii (MIPT)

Co-author: Prof. ФРОЛОВ, Алексей (Сколковский институт науки и технологий (Сколтех))

Presenter: LIZIURA, Dmitrii (MIPT)

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