

## **abstract**

COMPUTER SCIENCE AND DISCRETE MATHEMATICS SEMINAR I

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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Recently there has been much interest in polynomial threshold functions in the context of learning theory, structural results and pseudorandomness. A crucial ingredient in these works is the understanding of the distribution of low-degree multivariate polynomials evaluated over normally distributed inputs. In particular, the two important properties are exponential tail decay and anti-concentration.

In this work we study the latter property. The important work in this area is by Carbery and Wright, who gave a tight bound for anti-concentration of polynomials in normal variables. However, the proof of their result is quite complex. We give a weaker anti-concentration result which has an elementary proof, based on some convexity arguments, simple analysis and induction on the degree. Moreover, our proof technique is robust and extends to other distributions.