

## Group Seminar

Multivariate Algorithms and Quasi-Monte Carlo Methods

On the negative dependence of scrambled  $(t, m, s)$ -nets

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### **Abstract**

In this talk, we study the dependence structure of scrambled  $(t, m, s)$ -nets. We show that they have a negative lower/upper orthant dependence structure if and only if  $t = 0$ . This study allows us to gain a deeper understanding about the classes of functions for which the variance of estimators based on scrambled  $(0, m, s)$ -nets can be proved to be no larger than that of a Monte Carlo estimator.