DEVIATIONS OF TRIANGLE COUNTS IN THE BINOMIAL RANDOM GRAPH II

Online Seminar

Speaker: Wojciech Samotij
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Time: Thur, June. 18th, 15:00-16:00
Zoom meeting ID: 938 156 17744 **Password: 061801**
Link: https://zoom.com.cn/j/93815617744

Abstract: Suppose that Y_1, …, Y_N are i.i.d. (independent identically distributed) random variables and let X = Y_1 + … + Y_N. The classical theory of large deviations allows one to accurately estimate the probability of the tail events X < (1-c)E[X] and X > (1+c)E[X] for any positive c. However, the methods involved strongly rely on the fact that X is a linear function of the independent variables Y_1, … , Y_N. There has been considerable interest-both theoretical and practical-in developing tools for estimating such tail probabilities also when X is a nonlinear function of the Y_i. One archetypal example studied by both the combinatorics and the probability communities is when X is the number of triangles in the binomial random graph G(n,p).
Talk 2: We will present a complete solution to the upper tail problem for triangle counts in G(n,p) that was obtained recently in a joint work with Matan Harel and Frank Mousset.

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