BOREL LOCAL LEMMA: ARBITRARY RANDOM VARIABLES AND LIMITED EXPONENTIAL GROWTH

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Time：Thu, Oct 16th, 09:30 - 10:00
Venue: Room 102, SCMS

Abstract:

The Lovász Local Lemma (the LLL for short) is a powerful tool in probabilistic combinatorics that is used to verify the existence of combinatorial objects with desirable properties. Recent years saw the development of various "constructive" versions of the LLL. A major success of this research direction is the Borel version of the LLL due to Csóka, Grabowski, Máthé, Pikhurko, and Tyros, which holds under a subexponential growth assumption. A drawback of their approach is that it only applies when the underlying random variables take values in a finite set. We present an alternative proof of a Borel version of the LLL that holds even if the underlying random variables are continuous and applies to dependency graphs of limited exponential growth.