1106-VN-449 **Linyuan Lu** (lu@math.sc.edu), **Austin Mohr*** (amohr@nebrwesleyan.edu) and **László A. Székely** (szekely@math.sc.edu). *Counting High-Girth Hypergraphs with the Lopsided Lovász Local Lemma.* Preliminary report.

The Lovász local lemma is a useful tool for showing that one can avoid a collection of "bad" events in a probability space. A limitation is that it requires most events to be independent. The lopsided version of the lemma achieves the same goal as its predecessor, but can function in total absence of independence. The lemma can often be further leveraged to obtain an asymptotically tight expression for the probability of avoiding the bad events. In the context of enumeration, this allows one to determine (asymptotically) the number of combinatorial objects avoiding a list of undesirable properties, even if those properties fail to be independent. We will count high-girth hypergraphs as a case study in the use of the lopsided local lemma as a tool for asymptotic enumeration. (Received August 28, 2014)