

【校庆学术活动月】图与组合系列讲座之五十（李学良）

报告题目：The asymptotic value of graph energy for random graphs with degree-based weights

报告人：李学良（南开大学 教授）

报告摘要：This talk is on the energy of weighted random graphs  $G_{n,p}(f)$ , in which each edge  $ij$  takes the weight  $f(d_i, d_j)$ , where  $d_v$  is a random variable, the degree of vertex  $v$  in the random graph  $G_{n,p}$  of Erdős--Rényi model, and  $f$  is a symmetric real function on two variables. Suppose  $f(d_i, d_j) \leq C_n^m$  for some constants  $C, m > 0$ , and  $f((1 + o(1))np, (1 + o(1))np) = (1 + o(1))f(np, np)$ . Then, for almost all graphs  $G$  in  $G_{n,p}$ , the energy of  $G$  is  $(1 + o(1))f(np, np) \frac{8}{3\pi} \sqrt{p(1-p)} \cdot n^{3/2}$ . Consequently, with this one basket we can get the asymptotic values of various kinds of graph energies of chemical use, such as Randić energy, ABC energy, and energies of random matrices obtained from various kinds of degree-based chemical indices.

报告时间：2019年9月29日(周日) 16:30-17:30

报告地点：磬苑校区数学科学学院 H306

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科学技术处

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