

## **[P13] Geometric Analysis of Polymers on a Square Lattice via Exact Enumeration**

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We study the collapse transition of polymers on a square lattice by measuring the radius of gyration and the end-to-end distance which are obtained by enumerating the number of possible conformations for each energy value. Maximum values of derivatives of the mean square values of both quantities enable us to estimate the transition temperature with the conjectured exact value of the geometric exponent. Because the universal ratio of both quantities tends towards constant at the transition temperature, the exactness of our data allows us to obtain the transition temperature accurately in spite of relatively short polymer lengths. The values of transition temperature obtained by geometric quantities are larger than those by thermodynamic quantities such as the specific heat, the partition function zeros, etc.