Convergence of correlations in the 2D Ising model: primary fields and the stress-energy tensor

Monday, 5 September 2016 12:15 (1 hour)

In this talk we plan to summarize recent results on convergence of correlations functions in the critical 2D nearest-neighbor Ising model (on general planar domains) to their continuous counterparts. This includes mixed correlations of spins, disorders, fermions and energy densities (in preparation, joint with Clement Hongler (Lausanne) and Konstantin Izyurov (Helsinki)) and a discrete version of the stress-energy tensor (arXiv:1604.06339, joint with Alexander Glaznam (Tel-Aviv) and Stanislav Smirnov (Geneva)). The main technical tool is convergence theorems for discrete holomorphic spinors that are known to solve particular Riemann-type boundary value problems. In particular, one can construct all the aforementioned correlation functions and to deduce relevant CFT fusion rules starting with solutions to these Riemann-type boundary value problems in continuum.

Presenter: Prof. CHELKAK, Dmitry (ENS, Paris)