

# New Initial Approximation in Loop Vertex Expansion

*jeudi 16 novembre 2023 13:40 (45 minutes)*

Loop Vertex Expansion (LVE) was developed for the construction of QFT models with local and non-local interactions. Using LVE, one can prove the analyticity in the finite cardioid-like domain in the complex plane of the coupling constant of the free energies and cumulants of various vector, matrix, or tensor type models. In this talk, applying the idea of choosing the initial approximation depending on the coupling constant, I construct the analytic continuation of the free energy of the quartic matrix model beyond the standard LVE cardioid.

**Orateur:** Prof. SAZONOV, Vasily (CEA)