Carlos Hugo Jiménez
Universidad Federal de Minas Gerais (Brasil)

Sampling quantum correlation with high probability.

It is well known that quantum correlations for bipartite dichotomic measurements are those of the form $\gamma = (\langle u_i, v_j \rangle)_{i,j=1}^{n}$, where the vectors u_i and v_j are in the unit ball of a real Hilbert space. In this work we study the probability of the nonlocal nature of these correlations as a function of $\alpha = \frac{m}{n}$, where the previous vectors are sampled according to the Haar measure in the unit sphere of $\mathbb{R}^m$. In particular, we prove the existence of an $\alpha_0 > 0$ such that if $\alpha \leq \alpha_0$, γ is nonlocal with probability tending to 1 as $n \to \infty$, while for $\alpha > 2$, γ is local with probability tending to 1 as $n \to \infty$.

Fecha y hora: 10 de febrero de 2015, 11:00.

Lugar: TI1329SD (IMAC).