Intervento di **GIANCARLO FRANZESE**

Titolo:

The fully frustrated XY model with next nearest neighbor interaction

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We introduce [1] a fully frustrated XY model with nearest neighbor (nn) and next nearest neighbor (nnn) couplings which could play a relevant role in low temperature regime of usual Josephson junction arrays and can be realized in specially designed setups [2]. We study the phase diagram for $0 \leq x \leq 1$ (x is the ratio between nn and nnn couplings). When $x \leq 0.7$ an Ising-like and a Kosterlitz-Thouless-Berezinskii-like transitions are present (both decrease with increasing x). For $x \geq 0.8$ only the latter transition occurs. Above $x = 0.8$ the transition temperature rapidly increases toward the $x \to \infty$ limit and the reentrant phase could be experimentally detected.

Referenze:
[1] V. Cataudella, G. Franzese, R. Fazio, in preparation.
[2] H. Courtois and P. Martinoli (private communication).