

# DELOCALIZATION OF TWO-DIMENSIONAL RANDOM SURFACES WITH GENERAL INTERACTIONS

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In my talk I will consider the fluctuations of random surfaces on a two-dimensional discrete torus. The random surfaces in question are defined via a nearest-neighbor pair potential. We require very mild integrability assumptions on the potential. In particular we do not assume convexity, smoothness and admit hard-core constraints.

I will present the result that these surfaces delocalize, having fluctuations whose variance is at least of order  $\log(n)$ , where  $n$  is the side length of the torus.

Arguably, our result is an important step towards the universality conjecture for random surfaces, which states that (almost) any surface scales to the continuum Gaussian free field.

This is a joint work with R. Peled (U of Tel Aviv) and M. Gagnebin (U de Genève).