

Arctic curves for the six-vertex model on generic domains

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The six-vertex model with domain wall boundary conditions can be regarded as an 'interacting' generalization of the famous 'free-fermion' problem of domino tilings of the Aztec Diamond. In a suitable scaling limit, it is known to exhibit spatial phase separations, with the emergence of various regions of order and disorder, sharply separated by a smooth curve, called Arctic curve. The exact form of the Arctic curve for arbitrary weights of the model is known. Here we discuss the problem of calculating the form of the Arctic curves for the six-vertex model on generically shaped domains of the square lattice, with (a suitable generalization of) Domain Wall boundary conditions. This is joint work with Andrei Pronko and Andrea Sportiello.