

Double Vandermonde matrices and the spectral transform

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The spectral transform for the dimer model is an algebraic map which associates to a weighted bipartite graph on the torus a plane curve and divisor. The inverse of this map is in fact rational, and can be described explicitly using Vandermonde-like matrices with two sets of variables. This transform allows one to identify the underlying cluster integrable system with the Beauville integral system.

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