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Jonas T. Hartwig* (jth@iastate.edu). *Noncommutative Kleinian fiber products and vertex models.*

This talk is about a recent connection between (higher spin) six-vertex configurations on a square lattice with semi-periodic twisted boundary conditions and noncommutative deformations of certain fiber products of two type A Kleinian singularities. Examples include quotients of the enveloping algebra of the affine Lie algebra $A_1^{(1)}$ and a finite W-algebra of \mathfrak{sl}_4 . I will discuss some interesting features of their representation theory, in particular how the center as well as simple objects of the category of weight modules can be directly described from the six-vertex configuration. I will also present a combinatorial description of the signature of the unique (possibly indefinite) invariant inner product on simple weight modules in terms of certain eight-vertex configurations induced by the original six-vertex configuration. (Received February 07, 2017)