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Twisted modules, conformal blocks, and Prym varieties

We give a geometric approach to twisted vertex operators on an algebraic curve. This allows us to define a notion of conformal block valued in twisted modules for a vertex algebra. In certain cases these conformal blocks can be realized as Prym theta functions. They also give rise to localization functors from representations of twisted affine Lie algebras to twisted D-modules on Prym-like varieties. This is joint work with Edward Frenkel.