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Jiuzu Hong* (jiuzu@email.unc.edu). *Conformal blocks for Galois covers of algebraic curves*. Preliminary report.

Given an algebraic curve with finite many marked points, we attach an irreducible integrable highest weight representation to each marked point. The space of conformal blocks associated to these representations on the algebraic curve is a finite dimensional vector space. It has many nice properties, including propagation of vacua and factorization properties. A projectively flat connection structure occurs on the family of conformal blocks if we deform the marked curve, and very remarkably the dimension can be computed by celebrated Verlinde formula.

If we replace the algebraic curve by Galois cover, we can similarly attach the space of conformal blocks. Under some mild conditions, we also can show propagation of vacua and factorization properties, if we deform the Galois cover, a similar projectively flat connection will also arise. This talk will be based on the ongoing joint work with Shrawan Kumar. (Received February 07, 2018)