

On elliptic analogues of the Takhtajan–Zograf metric on moduli spaces

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Abstract

In this talk, we investigate a new type of Eisenstein series associated to elliptic points on finite volume hyperbolic Riemann surfaces. As in the classical case, these so-called elliptic Eisenstein series satisfy a Kronecker limit type formula. Moreover, in joint work with G. Freixas, we construct an elliptic analogue of the Takhtajan–Zograf form for the moduli space of genus g hyperbolic Riemann surfaces with n marked weighted points. The corresponding local index theorem can then be derived from an arithmetic Riemann–Roch isometry.