



An Elliptic Analogue Of Generalized Cotangent Dirichlet Series And Its Transformation Formulae At Some Integer Arguments

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B.C. Berndt evaluated special values of the cotangent Dirichlet series. T. Arakawa studied a generalization of the series, or generalized cotangent Dirichlet series, and gave its transformation formulae. In this paper, we establish an elliptic analogue of the generalized cotangent Dirichlet series and give its transformation formulae at some integer arguments. As a corollary, we obtain the transformation formulae of the generalized cotangent Dirichlet series at some integer arguments which are the part of Arakawa's transformation formulae. Those transformation formulae give the special values of the cotangent Dirichlet series evaluated by B.C. Berndt.

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