A generalization of the reciprocity law of multiple Dedekind sums

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Abstract

Various multiple Dedekind sums were introduced by B.C.Berndt, L.Carlitz, S.Egami, D.Zagier and A.Bayad.

In this talk, noticing the Jacobi form in Bayad[1], the cotangent function in Zagier[3], Egami's result on cotangent functions[2] and their reciprocity laws, we study a special case of Bayad's Jacobi forms and deduce a generalization of Egami's result on cotangent functions and a generalization of Zagier's result. Further, we consider their reciprocity laws.

References

[1] A.Bayad, Sommes de Dedekind elliptiques et formes de Jacobi, *Ann. Inst. Fourier, Grenoble* **51**,1(2001), 29-42.

[2] S.Egami, An elliptic analogue of multiple Dedekind sums, *Compositio Math.*, **99**(1995), 99-103.

[3] D.Zagier, Higher order Dedekind sums , *Math. Ann.*, **202**(1973), 149-172.