



Integrality Properties of the CM-values of Certain Weak Maass Forms

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In a recent paper, Bruinier and Ono prove that the coefficients of certain weight $-1/2$ harmonic Maass forms are traces of singular moduli for weak Maass forms. In particular, for the partition function $p(n)$, they prove that $p(n) = \frac{1}{24n-1} \sum P(\alpha_Q)$ where P is a weak Maass form and α_Q ranges over a finite set of discriminant $-24n+1$ CM points. Moreover, they show that $6(24n-1)P(\alpha_Q)$ is always an algebraic integer, and they conjecture that $(24n-1)P(\alpha_Q)$ is always an algebraic integer. Here we prove a general theorem which implies this conjecture as a corollary.

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