1077-11-899 **Jeffrey Beyerl*** (jbeyerl@clemson.edu), **Kevin James** and **Hui Xue**. *Divisibility of Eigenforms, and computing a function of the j-invariant.*

A modular form $f(z)$ may be written uniquely as $f(z) = \Delta(z)^a E_4(z)^b E_6(z)^c g(j(z))$ where j is the j-invariant. In this talk I will consider the divisibility of level 1 eigenforms and their relationship to $g(j(z))$. In particular I will give the relationship between the irreducibility of $g(j(z))$ and factorization of a corresponding eigenform. I will also present the computations I performed to show the irreducibility of $g(j(z))$ to higher weights. (Received September 14, 2011)