

Higher Reciprocity Laws, Modular Forms of Weight One
and Their Galois Representations.

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Due to a result by Serre and Deligne, for all Hecke eigenforms of weight one, there is an associated linear two-dimensional complex representation which factors uniquely through a finite Galois extension K/\mathbb{Q} . If K is the splitting field of $f(x)$, then the p th coefficient of the modular form gives information about how $f(x)$ factors mod p . In this talk, we will discuss various pieces of information which can be used to explicitly identify $f(x)$ including the level of the modular form, its character, and the parity of its coefficients.