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Scott Ahlgren* (ahlgren@math.uiuc.edu), Department of Mathematics, 1409 W. Green St,
Urbana, IL 61801. *Mock modular grids and Hecke relations for mock modular forms.*

We consider grids of weak harmonic Maass forms (these are comprised of two infinite families of forms which are “dual” in the sense that reading down the grid gives the coefficients of the first family, while reading across gives the coefficients of the second). As an application, we use Hecke relations among elements of these grids to study identities and congruences for generating functions of interest (for example, the “smallest parts” function of Andrews). This is joint work with Byungchan Kim. (Received July 25, 2011)