1108-20-448 **Sinead Lyle** and **Oliver Ruff*** (oruff@kent.edu). *Some graded decomposition numbers for Ariki-Koike algebras.*

The Ariki-Koike algebras $\mathcal{H}_{n,r}$ arise in many natural contexts, including as Hecke algebras of complex reflection groups of type $G(r,1,n)$ and as a means of categorifying highest weight modules of certain Kac-Moody algebras. The most important open problem in their representation theory is to calculate their (graded) decomposition matrices. There is a combinatorial definition of *weight* for blocks of $\mathcal{H}_{n,r}$; blocks of weight at most 2 are now understood but higher weight blocks quickly become very complicated. We define a block-invariant graph called the *weight graph* associated to a core block of $\mathcal{H}_{n,r}$, and classify such blocks whose weight graphs are trees. (Received January 19, 2015)