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**Jonathan D.H. Smith\***, Department of Mathematics, 396 Carver Hall, Iowa State University, Ames, IA 50011-2064. *Permutation representations, characters and set partitions*. Preliminary report.

The concept of a group permutation representation is extended to quasigroups and left quasigroups. Permutation matrices are replaced by more general stochastic matrices. Many aspects of the classical theory of group permutation representations, including Burnside's "Orbit-Counting" Lemma and the Burnside algebra, extend naturally to the new context. In the quasigroup case, a permutation character is associated with each permutation representation. Representations of the most elementary left quasigroups, namely sets with right projection, lead to questions about set partitions. (Received August 24, 2005)