1142-57-215 **Sujoy Mukherjee*** (`sujoymukherjee@gwu.edu`) and **Józef H. Przytycki** (`przytyck@gwu.edu`).
On the rack homology of graphic quandles.

The graphic axiom $a * b = (a * b) * a$ was introduced by F. W. Lawvere in 1987. Quandles are self-distributive algebraic structures with axioms motivated by the three Reidemeister moves in knot theory. Spindles are obtained by weakening the axioms of a quandle. It was discovered by M. Niebrzydowski and J. H. Przytycki that there are quandles and spindles satisfying the graphic axiom. One such family of quandles satisfying the graphic axiom consist of $f_{i,j}-$quandles. We will answer the question whether or not there are quandles outside this family satisfying the graphic axiom. In the second half of the talk, we will discuss the rack homology of these quandles. (Received September 04, 2018)