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Eric S Egge* (eggee@member.ams.org), Department of Mathematics, Carleton College,
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Pattern-avoiding involutions, which have received much enumerative attention, are pattern-avoiding permutations which are invariant under the natural action of a certain subgroup of D_8 , the symmetry group of a square. Three other nontrivial subgroups of D_8 also have invariant permutations under this action. For each of these subgroups, we enumerate the set of permutations which are invariant under the action of the subgroup and which also avoid a given set of forbidden patterns. The sets of forbidden patterns we consider include all subsets of S_3 . (Received September 24, 2006)