1145-VQ-326   **Sara M. Motlaghian*** (`smotlaghian1@student.gsu.edu`), 1307 Gettysburg Place, Atlanta, GA 30350, and **Ali Armandnejad** and **Frank J. Hall**. *Topological Properties of J-Orthogonal Matrices.*

In this paper, the set of all $n \times n$ J-orthogonal matrices is considered and some interesting properties of these matrices are obtained. The main topic is a straightforward proof of the known topological result that for $J \neq \pm I$, the set of all $n \times n$ J-orthogonal matrices has four connected components. An important tool in this analysis is Proposition **??** on the characterization of J-orthogonal matrices in the paper "J-orthogonal matrices: properties and generation", SIAM Review 45 (3) (2003), 504–519, by Higham. The expression of the four components allows formulation of some further noteworthy properties. For example, it is shown that the four components are homeomorphic and group isomorphic and that each component has exactly 2^{n-2} signature matrices.