1131-05-389   **aBa Mbirika*** (`mbirika@uwec.edu`). *Involutory and orientation-preserving symmetries in the hyperoctahedral group.* Preliminary report.

It is well known in the symmetric group setting that cycle structure determines the conjugacy classes in S_n and hence the distinct conjugacy classes are in bijection with partitions on n. Similarly in the complex reflection group $G(2,1,n)$ setting—that is, the symmetries of the n-cube, also called the hyperoctahedral group—the conjugacy classes are in bijection with bipartitions of n. We enumerate the conjugacy classes of $G(2,1,n)$ corresponding to involutory elements and the classes corresponding to the orientation-preserving symmetries with a goal of finding those classes in the intersection of both. Lastly, we compute the sizes of all the latter conjugacy classes. (Received July 18, 2017)