1147-20-155   **Jayadev S Athreya*** (`jathreya@uw.edu`), **David Aulicino** and **W Patrick Hooper**. *Closed singular geodesics on Platonic Solids.*

We study the existence and counting of closed singular geodesics on Platonic Solids: that is, we consider them as singular flat metrics on the sphere, and want to understand whether there are (and if so, how many there are) geodesic trajectories that start and end at the same vertex without passing through any other vertices. We show that the Dodecahedron is the only Platonic solid for which such trajectories exist, and classify them up to a natural equivalence relation. This is joint work with David Aulicino and Pat Hooper. (Received January 04, 2019)