

1125-05-2364

Michael J. Joseph* (michael.j.joseph@uconn.edu). *On Orbits of Toggling Actions on Independent Sets of a Path Graph and the Homomesy Phenomenon*. Preliminary report.

We consider systems consisting of a finite set S of objects, and an invertible map that partitions S into orbits. For many such systems one can find natural statistics on S that have the same average across any orbit; we call such statistics “homomesic”. This phenomenon occurs unexpectedly frequently, and often homomesic statistics can be used to answer seemingly unrelated questions about the orbits. In this talk we consider an example of this in detail, for which the invertible map is a product of toggling involutions on independent sets of a path graph. (Received September 20, 2016)