

NWS15-2015-000009

Abstract for an Invited Paper
for the NWS15 Meeting of
the American Physical Society

Choose Your Own Adventure: Blueprints for Other Solar Systems

SARAH BALLARD, University of Washington

Our own Solar System furnishes the most familiar planetary architecture: many planets, orbiting nearly coplanar to one another. However, the most common planetary systems in the Milky Way Galaxy orbit much smaller stars, and these may present a very different blueprint. NASA's Kepler mission has furnished more than 100 exoplanets orbiting stars half the mass of the sun and smaller. Half of these planets reside in systems with at least one additional planet. I investigate the proposition of self-similarity in this sample: whether a single architecture explains the planet yield of Kepler, and whether it bears any similarity to our own Solar System. I discuss whether stellar properties are predictive of one final architecture versus another, and describe implications in the search for life.