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Su Gao and **Aaron Hill*** (aaron.hill@unt.edu). *The isomorphism problem for rank-1 systems*. Preliminary report.

We'll discuss the (measure-theoretic) isomorphism problem for rank-1 transformations. Foreman, Rudolph, and Weiss showed in 2011 that the isomorphism relation on rank-1 transformations is Borel, but no explicit Borel description of the isomorphism relation is currently known. We'll describe ways of producing measure-theoretic isomorphisms between rank-1 transformations and connections to the isomorphism problem (when are two rank-1 transformations isomorphic?), the inverse problem (when is a rank-1 transformation isomorphic to its inverse?) and the centralizer problem (what isomorphisms exist between a rank-1 transformation and itself?). (Received August 19, 2013)