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**Jonathan Simone\*** ([js3fv@virginia.edu](mailto:js3fv@virginia.edu)). *Symplectically replacing plumbings with Euler characteristic 2 4-manifolds.*

The (generalized) rational blowdown technique is a procedure in which a linear plumbing of  $D^2$ -bundles over  $S^2$  is excised from a smooth 4-manifold and replaced by a rational homology ball. This was introduced by Fintushel and Stern, generalized by Park, and shown to be a symplectic operation by Symington. Based on work by Lisca, it is known precisely which linear plumbings can be symplectically rationally blown down. In this talk, we will produce a complete list of linear plumbings that can be “symplectically replaced” by 4-manifolds of Euler characteristic 2. We call such plumbings “2-replaceable.” We will then construct “2-replaceable trees” and finally use symplectic cut and paste to produce an exotic rational surface. (Received September 20, 2016)