1165-53-178 **Erin Griffin*** (egriff02@syr.edu), 215 Carnegie Building, Syracuse University, Syracuse, NY 13210. *Gradient Ambient Obstruction Solitons on Homogeneous Manifolds.*

We examine homogeneous solitons of the ambient obstruction flow and, in particular, prove that any compact ambient obstruction soliton with constant scalar curvature is trivial. Focusing on dimension 4, we show that any homogeneous gradient Bach soliton that is steady must be Bach flat, and that the only non-Bach-flat shrinking gradient solitons are product metrics on $\mathbb{R}^2 \times S^2$ and $\mathbb{R}^2 \times H^2$. We also construct a non-Bach-flat expanding homogeneous gradient Bach soliton. We also establish a number of results for solitons to the geometric flow by a general tensor q. (Received January 17, 2021)