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Joost Berson, Arno van den Essen and David Wright* (wright@math.wustl.edu),
Department of Mathematics, Washington University, Campus Box 1146, One Brookings Drive, St.
Louis, MO 63130. *Stable Tameness of Two-Dimensional Polynomial Automorphisms Over a
Regular Ring.*

In this paper it is established that all two-dimensional polynomial automorphisms over a regular ring R are stably tame. In the case R is a Dedekind \mathbb{Q} -algebra, some stronger results are obtained. A consequence of this is that all known types of three-dimensional automorphisms over a field are stably tame. A key element in the proof is a theorem which yields the following corollary: Over an Artinian ring A all two-dimensional polynomial automorphisms having Jacobian determinant one are stably tame, and are tame if A is a \mathbb{Q} -algebra. Another crucial ingredient, of interest in itself, is that stable tameness is a local property: If an automorphism is locally tame, then it is stably tame. (Received July 10, 2008)