Kodama, Akio
Characterizations of complex manifolds from the viewpoint of holomorphic automorphism groups. (English) [Zbl 1242.32010]

This is a survey article on results, which characterize certain complex manifolds up to biholomorphisms only by means of information on their automorphism group, considered as a topological group or as a Lie group. The paper ends with an outline of the proofs of two recent results by Š. Shimizu and the author, appeared in detail in [Kodai Math. J. 33, No. 2, 182–191 (2010; Zbl 1206.32010)].

For the entire collection see [Zbl 1223.35010].

Reviewer: Andrea Spiro (Camerino)

MSC:
32M05 Complex Lie groups, group actions on complex spaces
32M10 Homogeneous complex manifolds
32M15 Hermitian symmetric spaces, bounded symmetric domains, Jordan algebras (complex-analytic aspects)

Keywords:
holomorphic automorphism group; bounded symmetric domains in $\mathbb{C}^n$