

Alexander Isaev

Lectures on the Automorphism Groups of Kobayashi-Hyberbolic Manifolds

 Springer

Contents

1	Introduction	1
1.1	The Automorphism Group as a Lie Group	1
1.2	The Classification Problem	4
1.3	A Lacuna in Automorphism Group Dimensions	7
1.4	Main Tools	9
2	The Homogeneous Case	23
2.1	Homogeneity for $d(M) > n^2$	23
2.2	Classification of Homogeneous Manifolds	24
3	The Case $d(M) = n^2$	29
3.1	Main Result	29
3.2	Initial Classification of Orbits	32
3.3	Real Hypersurface Orbits	34
3.4	Proof of Theorem 3.1	42
4	The Case $d(M) = n^2 - 1$, $n \geq 3$	51
4.1	Main Result	51
4.2	Initial Classification of Orbits	52
4.3	Non-Existence of Real Hypersurface Orbits	55
4.4	Proof of Theorem 4.1	59
5	The Case of (2,3)-Manifolds	61
5.1	Examples of (2,3)-Manifolds	62
5.2	Strongly Pseudoconvex Orbits	79
5.3	Levi-Flat Orbits	90
5.4	Codimension 2 Orbits	106
6	Proper Actions	121
6.1	General Remarks	121
6.2	The Case $G \simeq U_n$	126

6.3 The Case $G \simeq SU_n$	129
References	131
Index	137