

ON LOCALLY HOMOGENEOUS ASPHERICAL KÄHLER MANIFOLDS

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ABSTRACT. We shall prove that a compact locally homogeneous aspherical Kähler manifold $\Gamma \backslash G/H$ is holomorphically *isometric* to a quotient of the product $T_{\mathbb{C}}^k \times S_0/H_0$ by a discrete subgroup Q_0 . Then $\Gamma \backslash G/H$ becomes a holomorphic toral bundle over a Hermitian symmetric orbifold S_0/H_0 . The isometry classification on $\Gamma \backslash G/H$ reduces to that of holomorphic isometric actions of Q_0 on $T_{\mathbb{C}}^k \times S_0/H_0$, while Γ admits a group extension of a Bieberbach group by the product of a Mostow rigidity group and a surface group. The Seifert rigidity applies to show $\Gamma \backslash G/H$ is always smoothly rigid. (This is a joint work with O. Baues (Univ. of Fribourg)).