

[Abbena, Elsa](#)

An example of an almost Kähler manifold which is not Kählerian. (English) [Zbl 0559.53023](#)
Boll. Unione Mat. Ital., VI. Ser., A 3, 383-392 (1984).

The author introduces a 4-dimensional compact homogeneous space $M = G/\Gamma$ where G is a certain connected Lie group and Γ a discrete subgroup. A metric and a compact almost complex structure are defined on M . It is possible to prove that M is the homogeneous space corresponding to the manifold defined by *W. Thurston* [*Proc. Am. Math. Soc.* 55, 467-468 (1976; [Zbl 0324.53031](#))]. This manifold is shown to be an almost Kähler manifold which is not Kählerian. Finally the author studies the curvature of M .

Reviewer: S.S.Singh

MSC:

[53C15](#) General geometric structures on manifolds (almost complex, almost product structures, etc.) [Cited in 15 Documents](#)

[53C30](#) Differential geometry of homogeneous manifolds

Keywords:

homogeneous space; almost complex structure; almost Kähler manifold