

© 2008 Heldermann Verlag
Journal of Lie Theory 18 (2008) 067–082

E. Abadođlu

Yeditepe Universitesi, Matematik Bölümü, 26 Agustos Yerlesimi, 81120 Kayisdagi – Istanbul,
Turkey
eabadoglu@yeditepe.edu.tr

E. Ortacđil

Bogazici Universitesi, Matematik Bölümü, 34342 Bebek – Istanbul, Turkey
ortacgil@boun.edu.tr

F. Öztürk

Bogazici Universitesi, Matematik Bölümü, 34342 Bebek – Istanbul, Turkey
ferit.ozturk@boun.edu.tr

**Klein Geometries, Parabolic Geometries and Differential Equations
of Finite Type**

We define the infinitesimal and geometric orders of an effective Klein geometry G/H . Using these concepts, we prove (i) For any integer $m \geq 2$, there exists an effective Klein geometry G/H of infinitesimal order m such that G/H is a projective variety. (ii) An effective Klein geometry G/H of geometric order M defines a differential equation of order $M + 1$ on G/H whose global solution space is G .

Keywords: Homogeneous space, jet.

MSC: 53C30