

1113-47-288

**Gyorgy Pal Geher\***, Aradi v. t. 1., Szeged, H6720, Hungary, and **Peter Semrl**. *Isometries of Grassmann spaces.*

Botelho, Jamison, and Molnár have recently described the general form of surjective isometries of Grassmann spaces on complex Hilbert spaces under certain dimensionality assumptions. In this paper we provide a new approach to this problem which enables us first, to give a shorter proof and second, to remove dimensionality constraints completely. In one of the low dimensional cases, which was not covered by Botelho, Jamison, and Molnár, an exceptional possibility occurs. As a byproduct, we are able to handle the real case as well. Furthermore, in finite dimensions we remove the surjectivity assumption. A variety of tools is used in order to achieve our goal. (Received August 25, 2015)