

1128-20-207

Larissa V. Sbitneva* (larissa@uaem.mx), Universidad Autónoma del Estado de Morelos, Av.Universidad 1001, Col. Chamilpa, 62209 Cuernavaca, Morelos st, Mexico. *On the generalization of the Third Inverse Lie's Theorem for smooth loops.*

The generalizations of three direct and inverse Lie's Theorems for the smooth Bol and Moufang loops have been obtained by applying the original methods of Sophus Lie based on the differential equations (Lev V. Sabinin, Smooth Quasigroups and Loops, Kluwer Academic Publisher, 1999). Further generalizations of the above mentioned classes of loops lead to the smooth PL-loops. We will present the development of these classical methods to the special case when a non-singular PL-loop is related to the geometry of trans-symmetric spaces. For the general situation We will outline the possible approach concerned to the Third inverse theorem and to a similar problem for the theory of actions of smooth loops, initiated by L. Sabinin.

This talk is dedicated to the 85th Anniversary of Lev Sabinin, who developed the theory of smooth non-associative structures and its relation to differential geometry. (Received February 27, 2017)