1135-51-78   **Sandipan Dutta*** (`d.sandipan@maths.iitkgp.ernet.in`), Department of Mathematics, IIT Kharagpur, West medinipur, 721302, India, and **Debapriya Biswas** (`priya@maths.iitkgp.ernet.in`), Department of Mathemartics, IIT Kharagpur, West Medinipur, 721302, India. *Constructing new geometries in the light of the Erlangen program.* Preliminary report.

In this paper, we have considered all the possible subgroups of $SL(2; \mathbb{R})$ from dimension zero to three especially concentrating upon the one-dimensional subgroups A, N and K. From those, we have made homogeneous spaces of various dimensions and finally, we define an action of $SL(2; \mathbb{R})$ on those spaces.

This action made new non-Euclidean geometries with the transformation group $SL(2; \mathbb{R})$. We have followed the path of Felix Klein's *Erlangen Program* to define these new types of geometries. (Received July 24, 2017)