ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

5. Differential Geometry and Global Analysis

1991 MS Classification: 53A, 53C, 58G, 17B

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Parabolic Geometries

An old concept going back to Cartan suggests to model geometries on general manifolds as deformations of Klein's homogeneous spaces G/P. The general features of such geometries are closely related to the representation theory of the subgroup $P \subset G$. In relation to his study of CR-geometry, C. Fefferman noticed that the relevant group P, in this case and other classical geometries, is a parabolic subgroup of a semisimple Lie group. He referred to all such cases as *parabolic geometries*, cf. [1]. The aim of the talk is to present basic information about the powerful general theory which has been worked out recently.

Reference: [1] Fefferman, Charles, Parabolic invariant theory in complex analysis, Adv. Math. 31, 131-262 (1979).