MATHEMATISCHES FORSCHUNGSINSTITUT OBERWOLFACH

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Geometrie

Organised by
Victor Bangert (Freiburg)
Yuri Burago (St. Petersburg)
Ulrich Pinkall (Berlin)

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ABSTRACT. The program covered a wide range of new developments in geometry. To name some of them, we mention the topics "Metric space geometry in the style of Alexandrov/Gromov", "Polyhedra with prescribed metric", "Willmore surfaces", "Constant mean curvature surfaces in three-dimensional Lie groups". The official program consisted of 21 lectures and included four lectures by V. Schroeder (Zürich) and S. Buyalo (Sankt-Petersburg) on "Asymptotic geometry of Gromov hyperbolic spaces".

Mathematics Subject Classification (2000): 53-xx.

Introduction by the Organisers

The workshop was organized by V. Bangert (Freiburg), Yu. D. Burago (St. Petersburg) and U. Pinkall (Berlin). Out of the 47 participants 22 came from Germany, 8 from the United States, 7 from Switzerland, 4 from Russia, 4 from England and 2 from France.

The official program consisted of 21 lectures and therefore left plenty of space for fruitful informal collaboration. As a tradition in this meeting there always is a series of talks that constitute a small course on a chosen topic of current interest. This time this course consisted of three lectures by V. Schroeder (Zürich) and S. Buyalo (Sankt-Petersburg) on "Asymptotic geometry of Gromov hyperbolic spaces". In addition there were several informal talks organized by the participants, among them an evening devoted to topics related to visualization.

The program covered a wide range of new developments in geometry. These came from four major topics:

- Eight talks concerned recent progress in the geometry of submanifolds in special geometries. In particular many exiting new results were reported on surfaces in various three- or four-dimensional spaces, including three-dimensional Lie-groups.
- Five talks were devoted to various topics in Riemannian geometry.
- Five talks concerned the extension of ideas from differential geometry to more general spaces like discrete groups, polyhedra or manifolds with curvature bounds in the style of Alexandrov. These five talks also included the mentioned small course.
- Finally there were three talks that do not fit the above categories. They were devoted to integral geometry, billiards and the volume of hyperbolic manifolds.

The wide range of topics provided a particularly pleasing environment for the young participants (among them six Phd-students).