

## PREFACE

Over the past 30 years singularity theory has developed its own identity as a stimulating, multidisciplinary and central part of mathematics and its applications, especially the ray and wave optical phenomena in symplectic geometry. Now it can stand alongside traditional branches of analysis, geometry, topology and algebra.

This is the third volume of Banach Center Publications devoted to this area. It contains papers written on the occasion of the third Banach Center Symposium on Geometry and Topology of Caustics — CAUSTICS '06 organized in Warsaw from 19 June till 30 June 2006. The subjects of the articles include: affinely invariant symmetry sets, reachable sets for a class of contact sub-Lorentzian metrics on three space and null non-smooth geodesics, reductions of locally conformal symplectic structures and de Rham cohomology tangent to a foliation, caustics and wave front propagations and their applications to differential geometry, simple framed curve singularities, generalized PN manifolds and separation of variables, real deformations and invariants of map-germs, cobordisms of fold maps of  $2k + 2$ -manifolds into  $\mathbb{R}^{3k+2}$ , quasi singularities, singularities in drawings of singular surfaces, surfaces which contain many circles, caustics in Greek antiquity, bifurcations in symplectic space, global structure of holomorphic webs on surfaces, singularities of Hamiltonian mappings, projections of surfaces with singular boundary. All the papers have been carefully refereed.

More than 50 researchers including many young mathematicians from 10 countries participated in the meeting. The Symposium was supported by the international research programmes realized at the Institute of Mathematics, Polish Academy of Sciences. The editors would like to thank the Institute and the staff of the Banach Center for the excellent organization of the Symposium.

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