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Announcements

Conferences

Conference on Differential Geometry and Its Applications. This traditional international conference, organized every three years by various Czechoslovak scientific institutions, was held in Brno from August 24 to August 30, 1986. The Organizing Committee consisted of Jarolím Bureš (Charles University in Prague), Anton Dekrét (Faculty of Wood and Forest Engineering in Zvolen), Josef Janyška (J. E. Purkyně University in Brno), I. Kolář (Institute of Mathematics of the ČSAV, branch Brno), Oldřich Kowalski (Charles University in Prague), Demeter Krupka (chairman, J. E. Purkyně University in Brno), Zbyněk Nádeník (Czech Technical University in Prague), Alois Švec (Technical University in Brno), Jiří Tolar (Czech Technical University in Prague), Jiří Vanžura (Institute of Mathematics of the ČSAV, branch Brno). The activities of the Conference were divided between two sections; the chairmen were Alois Švec (Section Differential Geometry) and Demeter Krupka (Section Geometric Methods in Physics).

Proceedings of the Conference, edited by D. Krupka and A. Švec, will appear in two volumes. The first volume containing the lectures will be published by D. Reidel in co-edition with J. E. Purkyně University (for western countries); the same volume and the second volume containing communications will be published by J. E. Purkyně University.

Contents of the Proceedings:

Differential Geometry and Its Applications (Lectures)

M. Crampin, *Alternative Lagrangians in particle dynamics*, J. Eichhorn, *Characteristic classes and numbers for fibre bundles over noncompact manifolds*, M. Ferraris, M. Francaviglia, *Applications of the Poincaré–Cartan form in higher order field theories*, G. Gindikin, *Differential geometry problems in integral geometry*, S. I. Goldberg, G. Toth, *Remarks on Wente's example of an immersed torus in E^3* , J. Klein, *Almost symplectic structures in dynamics*, I. Kolář, *Some natural operators in differential geometry*, D. Krupka, *Regular lograngians and Lepagean forms*, O. Kowalski, M. Sekizawa, *Natural transformations of Riemannian metrics on manifolds to metrics on linear frame bundles – classification*, M. de León, P. R. Rodrigues, *Almost tangent geometry and higher order mechanical systems*, P. Michor, *Remarks on the Frölicher-Nijenhuis bracket* F. Mimura, T. Nôno, *Conservation laws in continuum dynamics*, M. Modugno, *New results on the theory of connections: Systems, overconnections and prolongations*, J. F. Pommaret, *Explicit calculation of certain differential identities used in mathematical physics*, W. Sarlet, *Geometrical structures related to second-order equations*, W. F. Shadwick, *Cartan's method of equivalence and the calculus of variations*, U. Simon, *Connections and conformal structure in affine differential geometry*, V. D. Skarzhinski, *Ambiguities of quantization procedure and choice of the Hamiltonian*, L. Vanhecke, *Symmetries and homogeneous Kähler manifolds*, A. M. Vinogradov, *Geometric singularities of solutions of nonlinear partial differential equations*

ANNOUNCEMENTS

Differential Geometry and Its Applications (Communications)

D. V. Aleksejevski, *Homogeneous Einstein metrics*, A. L. Almorox, *Graded manifolds and supergauge theories*, D. E. Betounes, *Utiyama's Lagrangian and external gauge fields*, F. Cantrijn, *On the geometry of degenerate Lagrangians*, J. F. Carinena, *Geometric theory of time rescaling*, J. F. Carinena—C. Lopéz, *Group theoretical treatment of optical aberrations*, J. Chrastina, *Recent results on formal calculus of variations and formal theory of differential equations*, I. Čomič, *Some remarks on connection coefficients of Finsler and recurrent Finsler spaces*, A. Dekrét, *On quasijets and connections*, A. Fleischer, *Submanifolds of reductive homogeneous spaces and Lie triple algebras*, H. Fuchs, *Test particle motion in geometric objects fields — conservation laws*, J. Grabowski, *Derivations of the Lie algebras associated with a symplectic structure*, G. S. Hall, *Curvature, metric and holonomy in general relativity*, J. Horský, J. Novotný, J. Kučera, *On the plane symmetry in general relativity*, J. Janyška, *Connections naturally induced from the metric tensor and its derivatives of finite order*, U. Kasper, *On the importance of quantum mechanics for the axiomatic approach to the theory of gravitation*, L. Klapka, *The problem of differentiable Poisson bracket of coordinates in mechanics*, J. Korbaš, *On the nonexistence of almost complex structures on some oriented flag manifolds*, O. Krupková, *A note on the Helmholtz conditions*, J. Kubarski, *Characteristic classes of some Pradines-type groupoids and a generalization of the Bott vanishing theorem*, Le Hong Van, *Minimal surfaces in homogeneous spaces*, M. de León— I. Méndez—M. Salgado, *On the differential geometry of the coframe bundle*, L. Mangiarotti, *Jet shift differentials in classical gauge theories*, M. Marvan, *A note on the category of partial differential equations*, J. Mikeš, *F-planar mappings and transformations*, D. Moldobayev— J. Mikeš, *On some problems of the conformal transformations of Riemannian spaces*, J. Nikič, *A note on compatible almost product spaces*, Pham Thanh Tri, *On homologically minimal surfaces in symmetric spaces*, M. Puta, *Geometric quantization of the reduced phase space of the cotangent bundle*, J. Slovák, *On the finite order of some operators*, P. Štoviček, *Poisson structure with singularities, Berezin structure and the Gell-Mann formula*, J. Tolar—B. Jurčo, *Geometry and polarization of light*, H. Urbantke, *On integrability properties of $SU(2)$ Yang-Mills fields, II. Local problem*, J. Vanžura, *Cohomology of the Lie algebra of vector fields with constant divergence*.

Demeter Krupka