



# *Miskolc Mathematical Notes*

VOLUME 14 (2013), NUMBER 2

---

## CONTENTS

<i>Miroslav Kureš</i> AGMP 2012: Preface . . . . .	397
<i>Josef Mikeš, Bogdan Balcerzak, and Miroslav Kureš</i> In memory of Leonid Evtushik and Jan Kubarski . . . . .	401
<i>Paolo Giordano</i> Fermat reals: infinitesimals without Logic . . . . .	407
<i>Ivan Kolář</i> On the functorial prolongations of fiber bundles . . . . .	423
<i>Korbinian Münster and Ivo Sachs</i> On homotopy algebras and quantum string field theory . . . . .	433
<i>Rachel Nicks and Gareth Parry</i> Geometrical issues in the continuum mechanics of defective solid crystals . . . . .	445
<i>Maria Clara Nucci</i> Symmetries for thought . . . . .	461
<i>Sergey E. Stepanov and Josef Mikeš</i> Betti and Tachibana numbers . . . . .	475
<i>Ján Brajerčík and Milan Demko</i> Second order natural Lagrangians on coframe bundles . . . . .	487
<i>Miroslav Doupovec and Włodzimierz M. Mikulski</i> On symmetrization of higher order jets . . . . .	495
<i>Demeter Krupka, Zbyněk Urban, and Jana Volná</i> Variational projectors in fibred manifolds . . . . .	503
<i>Jan Kurek and Włodzimierz M. Mikulski</i> The natural liftings of connections to tensor powers of the cotangent bundle . . . . .	517
<i>Miroslav Kureš</i> Lagrangians on iterated tangent bundles and the Hamiltonization . . . . .	525
<i>Erico Tanaka and Demeter Krupka</i> On the structure of Finsler and areal spaces . . . . .	539

<b>Jiří Tomáš</b>	
Bundles of $(p, A)$ -covelocities and $(p, A)$ -jets . . . . .	547
<b>Olga Belova</b>	
The third type bunch of connections induced by an analog of Norden's normalization for the Grassmann-like manifold of centered planes . .	557
<b>Olena Chepurna and Irena Hinterleitner</b>	
On the mobility degree of (pseudo-) Riemannian spaces with respect to concircular mappings . . . . .	561
<b>Hana Chudá and Mohsen Shiha</b>	
Conformal holomorphically projective mappings satisfying a certain initial condition . . . . .	569
<b>Irena Hinterleitner and Josef Mikeš</b>	
Geodesic mappings of (pseudo-) Riemannian manifolds preserve class of differentiability . . . . .	575
<b>Jaroslav Hrdina</b>	
Geometry of almost Cliffordian manifolds: Nijenhuis tensor . . . . .	583
<b>Marek Jukl and Lenka Juklová</b>	
On decomposition problems on manifolds with a special differential operator . . . . .	591
<b>Jury Shevchenko and Elena Skrydlova</b>	
Reduction of the centroprojective connection of the projective group to the fundamental-group connection of a surface . . . . .	601
<b>Elena Stepanova and Marie Chodorová</b>	
On the degree of geodesic mobility of Riemannian manifolds . . . . .	609
<b>Irina I. Tsyganok and Sergey E. Stepanov</b>	
On complete totally umbilical and maximal space-like surfaces in pseudo- Riemannian manifolds . . . . .	613
<b>Alena Vanžurová</b>	
On metrizable of a class of 2-manifolds with linear connection . . . . .	621
<b>Füsun Özen Zengin and Bahar Kirik</b>	
Conformal mappings of nearly quasi-Einstein manifolds . . . . .	629
<b>Roman Cherniha</b>	
Conditional symmetries for boundary value problems: new definition and its application for nonlinear problems with Neumann conditions . .	637
<b>Markus Hunziker, Mark R. Sepanski, and Ronald J. Stanke</b>	
Global Lie symmetries of a system of Schrödinger equations and the oscil- lator representation . . . . .	647
<b>Marek Z. Elżanowski and Serge Preston</b>	
On continuously defective elastic crystals . . . . .	659

<b><i>Radka Malíková</i></b>	
Galilei invariance of the Helmholtz morphism . . . . .	671
<b><i>Petar Pavlov, Svetlana Lilkova-Markova, Borislav Nakov, and Janitza Kehajova</i></b>	
A geometric oriented approach in drawing the simulation model of small free angular vibrations of a body . . . . .	679
<b><i>Samuli Piipponen and Jukka Tuomela</i></b>	
Configuration space analysis of rigid mechanisms . . . . .	685
<b><i>Martin Swaczyna and Petr Volný</i></b>	
Geometric concept of isokinetic constraint for a system of particles . . . .	697
<b><i>Petr Vašík</i></b>	
Higher order connections on Lie groupoid: application to materials . . . .	705
<b><i>Jan Kubarski</i></b>	
Cyclic Čech–Hochschild bicomplex . . . . .	713
<b><i>Alexander Zuevsky</i></b>	
Identities for modular forms generated by vertex algebras . . . . .	721