

Annex 2: List of scholarly, scientific and artistic works

a) Monographs

- [1] Krupková O.: *The Geometry of Ordinary Variational Equations*, Lecture Notes in Mathematics **1678**, Springer, Berlin, 1997 M R
- [2]

b) Chapters in monographs

- [1] N/L R
- [2]

c) Original scientific articles in journals

- [1] Lenc M., Lencová B.: Poincaré a magnetický monopól jako elektronová čočka. *Čs. čas. fyz.*(1998), 5, 287-292. N/L R
- [2] Aken R. van, Lenc M., Barth J.: Aberration integrals for the low-voltage foil corrector. *Nuclear Instruments & Methods in Physics Research A*, **A 519** (2004), 1-2, 205-215. M IF=2,1
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d) Special subject-oriented collections editorial work

- [1] Fiala P., Strmiska M. (eds.): *Viceúrovňové vládnutí: teorie, přístupy, metody . sborník z konference*. CDK, Brno, 2005, xxx s. N/L R
- [2] Bureš J., Kowalski O., Krupka D., Slovák J. (eds.): *Differential Geometry and its Applications. Proc. Conf. Prague, August 30 - September 3, 2004*. Charles University, Prague, Czech Republic, xxx s. M R
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e) Original scientific articles in proceedings

- [1] Krupková O.: Hamiltonian field theory revisited: A geometric approach to regularity. In: *Steps in Differential Geometry*, Proc. Colloq. Diff. Geom., Debrecen, July 2000 (L. Kozma, P.T. Nagy and L. Tamássy, eds.) Debrecen University, Debrecen, 2001, 187-207. M R
- [2] D. Krupka, O. Krupková, G. Prince, and W. Sarlet, Contact symmetries and variational sequences, in: *Proc. 9th Internat. Conf. on Diff. Geom. Appl.*, Prague, 2004. Charles University, Prague, 2005, 599-609. M R
- [3]

f) Invited lectures

- [1] von Unge R.: *String theory I-III*. The 24th Winter School „Geometry and Physics“, Srní, Czech Republic, January 2004. M
- [2] N/L
- [3]

g) Abstracts related to active contributions to conferences

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|-----|---|-----|
| [1] | Lencová B.: On magnetic lens computation with FEM and BEM.
In: <i>Proceedings of international charged particle optics conference</i> , 2002. -Greenbelt,
University of Maryland, 2002. | M |
| [2] | Lencová Bohumila: Kam dále ve výpočtech mikroskopů? In: <i>Mikroskopie 2004 –
Přednášky</i> , 2004. Československá mikroskopická společnost, Brno, 2004, p.14. | N/L |
| [3] | | ... |

h) List of presentations for conferences that have not issued proceedings

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|-----|--|-----|
| [1] | von Unge R.: <i>Matematické aspekty strunové teorie</i> . 2. workshop výzkumného záměru
MSM0021622409, Brno, June 2005. | N/L |
| [2] | | M |

i) Purpose-oriented publications

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|-----|---|--|
| [1] | Slovák J.: <i>Natural operators on conformal Riemannian manifolds</i> . Habilitation thesis. Brno,
1994. | |
| [2] | Slovák J.: <i>Parabolic Geometries</i> . Thesis to confer DrSc. degree, Brno, 1999. | |
| [3] | | |

j) Research/Development projects

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|-----|---|-----|
| [1] | Geometrická analýza, GAČR 201/98/0853, 1998-1999. Úspěšně oponováno. (Researcher:
D. Krupka, Slezská univerzita v Opavě) | SŘ |
| [2] | Geometrická analýza, GAČR 201/01/0724, 2000-2002. Úspěšně oponováno. (Researcher:
D. Krupka, Slezská univerzita v Opavě) | SŘ |
| [3] | | ... |

k) Patents and other results ...

l) Audiovisual/web research and development presentations

m) Original artistic works

n) Audiovisual / web art presentations

o) other works significant on the part of the applicant

p) Three key works for the applicant (works attached)

a[1] Krupková O.: *The Geometry of Ordinary Variational Equations*, Lecture Notes in Mathematics **1678**, Springer, Berlin, 1997. M R

The monograph contains a comprehensive description of variations and inversion issues of mechanic systems on fibre varieties. It managed to give complete answers to some items that had not been solved, such as order reducibility. It formulates an innovative definition of variation regularity and founds general issues of Hamilton theory. The thesis received x quotations in international journals.

c[x] Krupková O.: Mechanical systems with non-holonomic constraints, *J. Math. Phys.* **38** (1997) 5098-5126. M R
IF=??

The thesis formulates a new mathematical apparatus for solving both theoretical and application problems in the area of systems mechanics with general non-holonomous structures – geometric theory of non-holonomous bound systems. The thesis has received x quotations in international journals.

... ..

q) Three most critical quotations for the applicant

c[x] Musilová J.: Piezoreflectance study of E_1 and E_2 transitions in Ge. *phys.stat. solidi (b)* **101**(1980), 85-93. M R
IF=??

(Item [x], part c) in the publications list.)

Cit.[1] Vina L., Logothetidis S., Cardona M.: Temperature-dependence of the dielectric function of germanium. *Phys. Rev.* **B30** (1984), 4, 1979-1999.

Cit.[2] Ronnow D., Lastraz-Martinez L. F., Cardona M., Santos P. V.: Determination of the piezooptical properties of semiconductors above the fundamental gap by means of reflectance difference spectroscopy. *J. Opt. Soc. Am.* **A16** (1999), 3, 568-573.

Quotations are mentioned in theses published in prestigious international physics journals; an author is the founder of modulation spectroscopy M. Cardona. This author quotes the thesis four times in total.

c[y] Krupka D., Musilová J.: Hamilton extremals in higher order mechanics. *Arch. Math. UJEP Brunensis*, Tomus **20** (1984), No. 1., 21-30. N/L R

(Item [y], part c) in the publications list.)

Cit.[3] Gotay M. J.: A Multisymplectic framework for classical field theory and the calculus of variations. I. Covariant Hamiltonian formalism. In: *Mechanics, analysis and geometry . 200 years after Lagrange*. North Holland, 1991, 203-235.

The quotation is significant for being mentioned in a prestigious purpose-oriented monograph issued by North Holland Publishing.