

ZOZNAM PUBLIKÁCIÍ :

1. Martin Konôpka, **Robert Turanský**, Joachim Reichert, Harald Fuchs, Dominik Marx and Ivan Štich : *Mechanochemistry and Thermochemistry are Different: Stress-Induced Strengthening of Chemical Bonds*. Phys. Rev. Lett. **100**, 115503 (2008), (IF: 7.180).
2. Martin Konôpka, **Robert Turanský**, Nikos L. Doltsinis, Dominik Marx and Ivan Štich : *Azobenzene–Metal Junction as a Mechanically and Opto–Mechanically Driven Switch*. High Performance Computing in Science and Engineering '08, Springer Berlin Heidelberg, 2009
3. Martin Konôpka, **Robert Turanský**, Nikos L. Doltsinis, Dominik Marx and Ivan Štich : *Organometallic Nanojunctions Probed by Different Chemistries: Thermo-, Photo-, and Mechano-Chemistry*. Advances in Solid State Physics, Springer Berlin Heidelberg, Volume **48**, 2009
4. Martin Konôpka, **Robert Turanský**, Matúš Dubecký, Dominik Marx and Ivan Štich : *Molecular Mechanochemistry Understood at the Nanoscale: Thiolate Interfaces and Junctions with Copper Surfaces and Clusters*. J. Phys. Chem. C **113**, 8878 (2009), (IF: 3.396).
5. **Robert Turanský**, Martin Konôpka, Nikos L. Doltsinis, Ivan Štich and Dominik Marx : *Optical, Mechanical, and Opto-Mechanical Switching of Anchored Dithioazobenzene Bridges*. Manuskript prijatý v ChemPhysChem, (IF: 3.636).
6. **Robert Turanský**, Martin Konôpka, Nikos L. Doltsinis, Ivan Štich and Dominik Marx : *Embedded azobenzene molecular switch: Optical, mechanical, and opto-Mechanical switching cycles*. Manuskript zaslaný J.Am.Chem.Soc., (IF: 8.091).

ZOZNAM OHLASOV :

Martin Konôpka, **Robert Turanský**, Joachim Reichert, Harald Fuchs, Dominik Marx and Ivan Štich : *Mechanochemistry and Thermochemistry are Different: Stress-Induced Strengthening of Chemical Bonds*. Phys. Rev. Lett. **100**, 115503 (2008).

1. Understanding Covalent Mechanochemistry Author(s): Ribas-Arino J, Shiga M, Marx D, Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION Volume: 48 Issue: 23 Pages: 4190-4193 Published: 2009

2. First Principles Dynamics and Minimum Energy Pathways for Mechanochemical Ring Opening of Cyclobutene Author(s): Ong MT, Leiding J, Tao HL, et al. Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY Volume: 131 Issue: 18 Pages: 6377-+ Published: MAY 13 2009
3. Substituent Effect on the Mechanical Properties of Au-N Nanojunctions Author(s): Michoff MEZ, Velez P, Leiva EPM Source: JOURNAL OF PHYSICAL CHEMISTRY C Volume: 113 Issue: 9 Pages: 3850-3854 Published: MAR 5 2009
4. Highly Efficient Mechanochemical Scission of Silver-Carbene Coordination Polymers Author(s): Karthikeyan S, Potisek SL, Piermattei A, et al. Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY Volume: 130 Issue: 45 Pages: 14968-+ Published: NOV 12 2008

ÚČASŤ V PROJEKTOCH :

1. Volkswagen-Stiftung STRESSMOL Stress-controlled Molecular Electronics, 2003-2007.
2. APVT 20-0091-07 Kvantové Monte-Carlo: Ultrapresné simulácie kondenzovaných systémov, 2008-2010.
3. ESF EC-0007-07 NANOPARMA Nanoparticle Manipulation with Atomic Force Microscopy Techniques , 2008-2012.
4. CE QUTE ITMS 26240102 Kvantové technológie, 2009-2011.

VYSTÚPENIA NA ODBORNÝCH PODUJATIACH A KONFERENCIÁCH :

1. Sept. 2005, 57. zjazd chemických spoločností, Vysoké Tatry 2005, Hrotom indukované procesy: Nanomanipulácia a mechanochemia; *Pozvaná prednáška*
2. Mar. 2007, 2007 APS March Meeting, Denver, USA, Mechanically induced cis to trans reisoimerization of azobenzene; *Prispená prednáška*

3. Máj 2007, 2007 ELITECH, Bratislava,
Azobenzene Optomechanical Molecular Switch; **Prispená prednáška**
4. Jún 2007, International Symposium on 60-th anniversary of Prof. R. Car, Trieste,
Taliansko, Organometallic Nanojunctions Probed by Different Chemistries: Thermal-,
Photo, and Mechanochemistry; *Pozvaná prednáška*
5. Sept. 2007, Central European Symposium on Theoretical Chemistry, Litschau, Rakúsko,
Organometallic Nanojunctions Probed by Different Chemistries: Thermal-, Photo, and
Mechanochemistry; *Pozvaná prednáška*
6. Sept 2007, CCP 2007, Brusel, Belgicko,
Optomechanical Azobenzene Molecular Switch; **Poster**
7. Okt. 2007, CENG 2007, Smolenice,
Azobenzene Optomechanical Molecular Switch; **Prispená prednáška**
8. Febr. 2008, DPG Spring Meeting, Berlin, Nemecko,
Can Anchored Photochromic Molecules be Switched? Optical, Mechanical and Opto-
Mechanical Cycle; *Pozvaná prednáška*
9. Jan. 2009, MSL workshop "Accessing large length and time scales with accurate
quantum methods", London, U.K., Optical, Mechanical and Opto--Mechanical Cycles
of Anchored Photochromic Molecules; *Pozvaná prednáška*
10. Mar. 2009, 2009 APS March Meeting, Pittsburgh, USA,
Optical, Mechanical, and Opto-Mechanical Switching of Anchored Dithioazobenzene
Bridges; *Prispená prednáška*
11. Sept. 2009, The 3rd Japan-Czech-Slovak Joint Symposium for Theoretical/
Computational Chemistry, Bratislava, Azobenzene: From electronic structure to
molecular switching; *Pozvaná prednáška*
12. Sept. 2009, 61. zjazd chemických spoločností, Vysoké Tatry 2009,
Mechanické vlastnosti organometalických nanoprechodov; **Prispená prednáška**
13. Sept. 2009, EDINAM09, Drážďany, Nemecko
Motion of Sb nanoparticles on HOPG: Simulation study of frictionless behaviour;
Pozvaná prednáška

ZOZNAM PATENTOV A PATENTOVÝCH PRIHLÁŠOK:

Bez patentov

APLIKÁCIE VÝSLEDKOV:

Zatiaľ bez aplikácií, reálna možnosť využitia výsledkov v elektronických súčiastkach budúcich generácií založených na organometalických nanoprechodoch, molekulárnej elektronike a nanoelektronike.

ŠTUDIJNÉ POBYTY:

November. 2005 Fyzikální ústav AV ČR, Praha, Česká republika