

## Spisak objavljenih naučnih radova

**dr Zorica M. Jakšić**  
**viši naučni saradnik**

Hronologija izbora u naučna zvanja:

### Zvanje istraživač saradnik

-Na sednici Naučnog veća Instituta za fiziku održanoj 22.12.1992. pokrenut je postupak za izbor u zvanje istraživač saradnik.

-Odluka o sticanju naučnog zvanja doneta na sednici Naučnog veća Instituta za fiziku 16.3.1993.

### Zvanje naučni saradnik

-Predlog odluke o sticanju naučnog zvanja donet na sednici Naučnog veća Instituta za fiziku održanoj 26.6.2002.

-Odluka o sticanju naučnog zvanja doneta na sednici Komisije za sticanje naučnih zvanja Ministarstva za nauku tehnologiju i razvoj Srbije održanoj 29.10.2002.

### Zvanje viši naučni saradnik:

-Predlog odluke o sticanju naučnog zvanja donet na sednici Naučnog veća Instituta za fiziku održanoj **17.7.2007.**

-Odluka o sticanju naučnog zvanja doneta na sednici Komisije za sticanje naučnih zvanja Ministarstva za nauku i zaštitu životne sredine Srbije održanoj **10.10.2007.**

### Zvanje viši naučni saradnik (prvi reizbor):

-Predlog odluke o sticanju naučnog zvanja donet na sednici Naučnog veća Instituta za fiziku održanoj **24.12.2012.**

-Odluka o sticanju naučnog zvanja doneta na sednici Komisije za sticanje naučnih zvanja Ministarstva prosvete, nauke i tehnološkog razvoja održanoj **24.4.2013.**

### Zvanje viši naučni saradnik (drugi reizbor):

-Predlog odluke o sticanju naučnog zvanja donet na sednici Naučnog veća Instituta za fiziku održanoj **4.2.2014.**

-Odluka o sticanju naučnog zvanja doneta na sednici Komisije za sticanje naučnih zvanja Ministarstva prosvete, nauke i tehnološkog razvoja održanoj **25.6.2014.**

### **Napomena:**

*Radovi publikovani nakon izbora u zvanje naučni saradnik, označeni su sa \*.*

*Radovi publikovani nakon izbora u zvanje viši naučni saradnik, označeni su sa \*\*.*

## **Radovi u naučnim časopisima međunarodnog značaja (M20)**

### **Radovi u vrhunskim međunarodnim časopisima (M21)**

- 1) Z. V. Popović, Z. M. Jakšić, Y. S. Raptis and E. Anastassakis,  
*High-pressure Raman-scattering study of germanium diselenide*,  
Phys. Rev. B, **57**(6), 3418-3422, (1998).  
(M21, IF=3.327(2002), 5/56 Physics, Condensed Matter; P=8)
- 2) Z. V. Popović, Y. S. Raptis, E. Anastassakis and Z. M. Jakšić,  
*Pressure induced amorphization of germanium diselenide*,  
Journal of Non-Crystalline Solids, **227-230**, 794-798, (1998).  
(M21, IF=1.062(1998), 3/20 Materials Science, Ceramics; P=8)
- 3)\* S. B. Vrhovac and Z. M. Jakšić,  
*Non-hydrodynamic transport theory of charged particle swarms in neutral gases*,  
J. Stat. Mech.: Theory and Experiment, **P06008**, (2004).  
(M21, IF=2.273(2005), 7/10 Mechanics; 4/38 Physics, Mathematical; P=8)
- 4)\* Lj. Budinski-Petković, M. Petković, Z. M. Jakšić and S. B. Vrhovac,  
*Symmetry effects in reversible random sequential adsorption on a triangular lattice*,  
Phys. Rev. E, **72**, 046118, (2005).  
(M21, IF=2.418(2005), 5/24 Physics, Fluids and Plasmas; 2/38 Physics, Mathematical; P=8)
- 5)\* S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković and A. Belić,  
*Linear kinetic equation: Long-time behavior of one-particle distribution function*,  
Eur. Phys. J. B, **53**, 225-232, (2006).  
(M21, IF=1.720(2005), 16/60 Physics, Condensed Matter; P=8)
- 6)\* D. Arsenović, S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković and A. Belić,  
*Simulation Study of Granular Compaction Dynamics under vertical tapping*,  
Phys. Rev. E, **74**, 061302, (2006).  
(M21, IF=2.438(2006), 5/24 Physics, Fluids and Plasmas; 2/41 Physics, Mathematical; P=8)
- 7)\*\* Z. M. Jakšić, S. B. Vrhovac, B. M. Panić, Z. Nikolić and B. M. Jelenković,  
*Upward penetration of grains through a granular medium*,  
Eur. Phys. J. E, **27**, 345 - 356, (2008).  
(M21, IF=1.943(2008), 46/192 Materials Science, Multidisciplinary; 27/96 Physics, Applied; P=8)
- 8)\*\* S. V. Živković, Z. M. Jakšić, D. Arsenović, Lj. Budinski Petković, and S. B. Vrhovac,  
*Structural characterization of two-dimensional granular systems during the compaction*,  
Granular Matter, **13**, 493 – 502, (2011).  
(M21, IF=1.755(2011), 27/132 Mechanics; P=8)
- 9)\*\* J. R. Šćepanović, I. Lončarević, Lj. Budinski-Petković, Z. M. Jakšić, and S. B. Vrhovac,

*Relaxation properties in diffusive model of dimers with constrained movements on a triangular lattice,*

Phys. Rev. E **84**, 031109, (2011).

(M21, IF=2.255(2011), 6/55 Physics, Mathematical; P=8)

10)\*\* Lj. Budinski-Petković, I. Lončarević, Z. M. Jakšić, S. B. Vrhovac and N. M. Švrakić,

*Simulation study of anisotropic random sequential adsorption of extended objects on a triangular lattice,*

Phys. Rev. E, **84**, 051601, (2011).

(M21, IF=2.255(2011), 6/55 Physics, Mathematical; P=8)

11)\*\* Lj. Budinski-Petković, I. Lončarević, M. Petković Z. M. Jakšić, and S. B. Vrhovac,  
*Percolation in random sequential adsorption of extended objects on a triangular lattice,*

Phys. Rev. E, **85**, 061117, (2012).

(M21, IF=2.255(2011), 6/55 Physics, Mathematical; P=8)

12)\*\* J. R. Šćepanović, Lj. Budinski-Petković, I. Lončarević, M. Petković, Z. M. Jakšić, and S. B. Vrhovac,

*Relaxation properties in a diffusive model of extended objects on a triangular lattice,*

Physica A: Statistical Mechanics and its Applications, **392**, 1153 - 1163, (2013).

(M21, IF=1.374(2011), 25/84 Physics, Multidisciplinary; P=8)

13)\*\* S. Živković, Z. M. Jakšić, I. Lončarević, Lj. Budinski-Petković, S. B. Vrhovac, and A. Belić,

*Optimization of the monolayer growth in adsorption - desorption processes,*

Phys. Rev. E, **88**, 052131, (2013).

(M21, IF=2.313(2012), 6/55 Physics, Mathematical; P=8)

## **Radovi u istaknutim međunarodnim časopisima (M22)**

14) Z. M. Jakšić, V. V. Urošević, Lj. Zeković and B. R. Jovanić,

*The pressure dependance of ruby fluorescence lifetime as a new optical method for pressure measurement,*

High Pressure Research, **9**, 247-250, (1992).

(M22, IF=0.837(1998), 26/65 Physics, Multidisciplinary; P=5)

15) V. V. Urošević, Z. M. Jakšić, Lj. D. Zeković, and B. R. Jovanić,

*New spectroscopic investigation of  $\text{SrB}_4\text{O}_7 : \text{Sm}^{2+}$  at high pressure,*

High Pressure Research, **9**, 251-254, (1992).

(M22, IF=0.837(1998), 26/65 Physics, Multidisciplinary; P=5)

16)\*\* I. Lončarević, Z. M. Jakšić, S. B. Vrhovac, and Lj. Budinski-Petković,

*Irreversible deposition of extended objects with diffusional relaxation on discrete substrates*

Eur. Phys. J. B, **73**, 439-445, (2010).

(M22, IF=1.575(2010), 29/68 Physics, Condensed Matter; P=5)

17)\*\* S. Živković, Z. M. Jakšić, J. R. Šćepanović, I. Lončarević, Lj. Budinski-Petković, and S. B. Vrhovac,

*Fractional kinetic model for granular compaction,*

Eur. Phys. J. B, **86**, 461, (2013).

(M22, IF=1.493(2012), 34/68 Physics, Condensed Matter; P=5)

18)\*\* Lj. Budinski-Petković, I. Lončarević, Z. M. Jakšić, and S. B. Vrhovac,  
*Fractal properties of financial markets*,  
Physica A: Statistical Mechanics and its Applications, **410**, 43 - 53, (2014).  
(M22, IF=1.722(2013), 24/77 Physics, Multidisciplinary; P=5)

### **Radovi u međunarodnim časopisima (M23)**

19)\* Z. M. Jakšić,  
*Temperature and pressure dependence of phonon frequencies in GeS<sub>2</sub>, GeSe<sub>2</sub>, and SnGeS<sub>3</sub>*  
Phys. Status Solidi B, **239**, No. 1, 131-143, (2003).  
(M23, IF=0.987(2003), 29/57 Physics, Condensed Matter; P=3)

20)\* Lj. Budinski-Petković, M. Petković, Z. M. Jakšić and S. B. Vrhovac,  
*Compaction of anisotropic granular materials: Symmetry effects*,  
Materials Sci. Forum **518**, 355-360, (2006).  
(M23, IF=0.399(2005), 137/178 Materials Science, Multidisciplinary; P=3)

21)\* D. Arsenović, S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković and A. Belić,  
*Simulation Study of Granular Compaction Dynamics under vertical tapping*,  
Materials Sci. Forum **555**, 107112, (2007).  
(M23, IF=0.399(2005), 137/178 Materials Science, Multidisciplinary; P=3)

22)\*\* S. Živković, Z. M. Jakšić, D. Arsenović, Lj. Budinski-Petković and S. B. Vrhovac,  
*Structural characterization and statistical properties of two-dimensional granular systems during the compaction*,  
Acta Phys. Polonica A, **120** (2), 246 – 251, (2011).  
(M23, IF=0.444(2011), 65/84 Physics, Multidisciplinary; P=3)

### **Radovi u zbornicima sa međunarodnih naučnih skupova (M30)**

#### **Saopštenja sa međunarodnih skupova štampana u celini (M33)**

1)\* Z. M. Jakšić,

*Refractive index of GeS<sub>2</sub> and its pressure dependence,*

BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003, Vrnjačka Banja, Serbia and Montenegro,

**SP06-55**, 699-702, (2003).

(M33, P=1)

2)\* Z. M. Jakšić,

*Temperature dependence of phonon frequencies in GeS<sub>2</sub>, GeSe<sub>2</sub>, and SnGeS<sub>3</sub>,*

BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003, Vrnjačka Banja, Serbia and Montenegro,

**SP06-55**, 703-706, 2003.

(M33, P=1)

3)\* Z. M. Jakšić,

*The frequency dependence of the mode Grüneisen parameter for GeS<sub>2</sub>, GeSe<sub>2</sub>, and SnGeS<sub>3</sub>*

BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003, Vrnjačka Banja, Serbia and Montenegro,

**SP06-57**, 707-710, 2003.

(M33, P=1)

4)\* S. B. Vrhovac and Z. M. Jakšić

*Non-hydrodynamic Transport Theory of Charged Particle Swarms in Neutral Gases,*

22<sup>nd</sup> Summer School and International Symposium on the Physics of Ionized Gases, August 23-27, 2004, National Park Tara, Bajina Bašta, Serbia and Montenegro,

SPIG 2004, Contributed papers, 149-152.

(M33, P=1)

#### **Saopštenja sa međunarodnih skupova štampana u izvodima (M34)**

5) M.T.Nenadović, M.I.Comor, Z.M.Jakšić, O.I. Mičić

*Influence of surface properties on transient bleaching of small PbS and CdS colloids*

Eight international conference on photochemical conversion and storage of solar energy (I.P.S.-8), Palermo (Italy), 15th-20th July, 1990, p.272.

(M34, P=0.5)

6) Z.V.Popović, Y.S.Raptis, E.Anastassakis and Z.Jakšić

*Pressure induced amorphization of germanium diselenide*

17th International Conference on amorphous and microcrystalline semiconductors, Science and Technology ICAMS 17 Budapest (Hungary) 25-29 August, 1997 p. 260.

(M34, P=0.5)

7)\* Z. M. Jakšić,

*Refractive index of -GeS<sub>2</sub> and its pressure dependence,*

BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003, Vrnjačka Banja, Serbia and Montenegro, Book of Abstracts, **SP06-55**, 135.

(M34, P=0.5)

8)\* Z. M. Jakšić,

*Temperature and pressure dependence of phonon frequencies in GeS<sub>2</sub>, GeSe<sub>2</sub>, and SnGeS<sub>3</sub>*  
BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003,  
Vrnjačka Banja, Serbia and Montenegro, Book of Abstracts, **SP06-56**, 135.

(M34, P=0.5)

9)\* Z. M. Jakšić

*The frequency dependence of the mode Grüneisen parameter  $\gamma_i$  for GeS<sub>2</sub>, GeSe<sub>2</sub>, and SnGeS<sub>3</sub>*

BPU-5, Fifth General Conference of the Balkan Physical Union, August 25-29, 2003,  
Vrnjačka Banja, Serbia and Montenegro, Book of Abstracts, **SP06-57**, 136.

(M34, P=0.5)

10)\* Lj. Budinski-Petković, M. Petković, Z. M. Jakšić, S. B. Vrhovac,

*Compaction of anisotropic granular materials: Symmetry effects,*

The seventh Yugoslav materials research society conference, YUCOMAT 12-16  
September, 2005, Book of Abstracts, p. 92.

(M34, P=0.5)

11)\* Lj. Budinski-Petković, M. Petković, Z. M. Jakšić, S. B. Vrhovac

*Fractional model for the compaction of a vertically tapped granular material,*

The seventh Yugoslav materials research society conference, YUCOMAT 12-16  
September, 2005, Book of Abstracts, p. 101.

(M34, P=0.5)

12)\* D. Arsenović, S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković, A. Belić

*Simulation study of granular compaction dynamics under vertical tapping*

The eighth Yugoslav materials research society conference YUCOMAT 4-8 September,  
2006, Book of Abstracts, p. 102.

(M34, P=0.5)

13)\* Lj. Budinski-Petković, I. Lončarević, Z. M. Jakšić, S. B. Vrhovac,

*Simple model for compaction of vertically tapped granular materials*

The eighth Yugoslav materials research society conference YUCOMAT 4-8 September,  
2006, Book of Abstracts, p. 137.

(M34, P=0.5)

14)\*\* Z. M. Jakšić, S. B. Vrhovac, B. Panić and B. M. Jelenković

*Upward penetration of grains through a granular medium,*

Ninth Annual Conference of the Yugoslav Materials Research Society YUCOMAT 10-14  
September, 2007, Book of Abstracts, p. 118.

(M34, P=0.5)

15)\*\* S. Živković, Z. M. Jakšić, D. Arsenović and S. B. Vrhovac

*Structural characterization and structural properties of two-dimensional granular systems during the compaction*

Twelfth annual conference YUCOMAT 6-10 September, 2010, Book of Abstracts, p.126.

(M34, P=0.5)

16)\*\* Z. M. Jakšić, Lj. Budinski-Petković, I. Lončarević, and S. B. Vrhovac

*Temperature and pressure dependence of raman spectra in crystalline GeS<sub>2</sub>, and GeSe<sub>2</sub>,*  
Thirteenth annual conference YUCOMAT 5-9 September, 2011, Book of Abstracts,  
p.118.

(M34, P=0.5)

17)\*\* J. R. Šćepanovic, I. Loncarevic, Lj. Budinski-Petkovic, S. B. Vrhovac, Z. M. Jakšić,  
*Relaxation properties in diffusive model of dimers with constrained movements on a  
triangular lattice,*

XVIII Symposium on Condensed Matter Physics - SFKM 2011, Belgrade – Serbia, Book  
of Abstracts, p. 101.

(M34, P=0.5)

18)\*\* Lj. Budinski-Petković, I. Lončarević, M. Petković, J. R. Šćepanović, Z. M. Jakšić,  
and S. B. Vrhovac,

*Impact of shape of extended objects on jamming and percolation on a lattice,*

Fourteenth annual conference YUCOMAT 3-7 September, 2012, Book of Abstracts, p.73.

(M34, P=0.5)

19)\*\* J. R. Šćepanović, I. Lončarević, Lj. Budinski-Petković, M. Petković, Z. M. Jakšić,  
S. B. Vrhovac,

*Relaxation properties in lattice gas model with extended particles,*

Fourteenth annual conference YUCOMAT, 3-7 September, 2012, Book of Abstracts, p.86.

(M34, P=0.5)

20)\*\* J. R. Šćepanović, I. Lončarević, Lj. Budinski-Petković, Z. M. Jakšić, and S. B.  
Vrhovac,

*Relaxation properties in randomly diffusive model of k-mers on a triangular lattice,*

The 8<sup>th</sup> General Conference of Balkan Physical Union, Constanta Romania, July 5–7,  
2012, Book of Abstracts, p.77.

(M34, P=0.5)

21)\*\* Z. M. Jakšić, J. R. Šćepanović, I. Lončarević, Lj. Budinski–Petković, S. B.  
Vrhovac, and A. Belić,

*Structural characterization of submerged granular packings,*

Fifteenth annual conference YUCOMAT, 2-6 September, 2013, Book of Abstracts, p.82.

(M34, P=0.5)

### **Radovi u naučnim časopisima nacionalnog značaja (M50)**

### **Radovi u vodećim časopisima nacionalnog značaja (M51)**

1)\*\* Z. M. Jakšić, D. Vasiljević, J. Šćepanović, and S. B. Vrhovac  
*Compaction Dynamics of Vibrated Granular Materials*  
Scientific Technical Review, Vol. 62, No. 3-4, pp. 39-44, (2012).  
(M51, P=2)

2)\*\* D. Dujak, A. Karač, Z. M. Jakšić, D. Vasiljević, and S. B. Vrhovac  
*Detecting Structure in Two Dimension Combining the Voronoi Tessellation and Shape factor*  
Scientific Technical Review, Vol. 64, No. 1, pp. 13-20, (2014).  
(M51, P=2)

### **Radovi u časopisima nacionalnog značaja (M52)**

1) Z. V. Popović, Z. Jakšić, Y.S.Raptis and E. Anastassakis  
*Pressure Induced Phase Transitions of Germanium Diselenide*  
Solid State Phenomena Vols. 61-62, 353-356, (1998).  
(M52, P=1.5)

### **Radovi u zbornicima sa skupova nacionalnog značaja (M60)**

### **Saopštenja sa skupova nacionalnog značaja štampana u celini (M63)**

1) Z.V.Popović, Z. M. Jakšić, Y.S.Raptis and E. Anastassakis  
*High Pressure Raman Scattering Study of GeSe<sub>2</sub>*  
Science of Sintering 30, Spec. Issue 23-27, 1998.  
(M63, P=0.5)

2)\* Lj. Budinski-Petković, Z. M. Jakšić and S. B. Vrhovac  
*Memory effects in vibrated granular systems*  
XVI National Symposium on Condensed Matter Physics, Sokobanja 5659, 2004.  
(M63, P=0.5)

3)\*\* D. Arsenović, S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković, A. Belić,  
*Simulation Study of Granular Compaction*  
Proceedings of XVII National Symposium on Condensed Matter Physics, Vršac, Serbia,  
193-196 (2007).  
(M63, P=0.5)

### **Saopštenja sa skupova nacionalnog značaja štampana u izvodima (M64)**

4) Z. Popović, Z. Jakšić, Y. Raptis, E. Anastassakis  
*Pressure induced phase transitions of germanium diselenide*  
Proc. SFKM Conf., Kladovo, 161-164, (1997).  
(M64, P=0.2)



### **Magistarske i doktorske teze (M70)**

#### **Odbranjena doktorska disertacija (M71)**

1) Zorica M. Jakšić,  
*Vibrazione osobine germanijum di- i tri-halkogenida pod visokim pritiscima*  
Doktorska disertacija, Fizički fakultet, Beograd, februar, 2002  
(M71, P=6)

#### **Odbranjen magistarski rad (M72)**

2) Zorica M. Jakšić,  
*Nove spektroskopske metode merenja visokih pritisaka u dijamantskoj presi*  
Magistarski rad, Fizički fakultet, Beograd, juni 1992.  
(M72, P=3)

**Kvantitativni pokazatelji (od izbora u zvanje viši naučni saradnik):**

Naučni savetnik		
	<i>ostvareno</i>	<i>potrebno</i>
<b>Ukupno: (M10)-(M90)</b>	$7 \times M21 + 3 \times M22 + 1 \times M23 + 8 \times M34 + 2 \times M51 + 1 \times M63 =$ $7 \times 8 + 3 \times 5 + 1 \times 3 + 8 \times 0.5 + 2 \times 2 + 1 \times 0.5 =$ $= 56 + 15 + 3 + 4 + 4 + 0.5 = \mathbf{82.5}$	<b>65</b>
<b>(M10)+(M20)+M31 +M32+M33+M41 +M42+M51</b>	$7 \times M21 + 3 \times M22 + 1 \times M23 + 2 \times M51 =$ $= 7 \times 8 + 3 \times 5 + 1 \times 3 + 2 \times 2 = 56 + 15 + 3 + 4 = \mathbf{78.0}$	<b>50</b>
<b>M11+M12+M21+M22 +M23+M24+M31 +M32+M41+M42</b>	$7 \times M21 + 3 \times M22 + 1 \times M23 =$ $= 7 \times 8 + 3 \times 5 + 1 \times 3 = 56 + 15 + 3 = \mathbf{74.0}$	<b>35</b>