

**Standarde minimale (OMECTS 6560/2012)**

**I. ACTIVITATEA DIDACTICĂ ȘI PROFESIONALĂ (A1)**

**1.1 Capitole de carti in edituri internationale**

1. R. Ionicioiu, *Quantum mechanics: knocking at the gates of mathematical foundations*, in Romanian Studies in Philosophy of Science, I. Părvu, G. Sandu and I.D. Toader (eds.), Springer Series: Boston Studies in the Philosophy and History of Science, Vol. 313 (2015), pg. 167-179.

**1.3 Brevete de invenție internaționale**

1. J. Duligall, K. Harrison, W. Munro, T. Spiller, R. Ionicioiu, *QKD System alignment*, U.S. Patent US 2009/0310784 A1
2. K. Harrison, W. Munro, T. Spiller, M. Tan, J. Duligall, R. Ionicioiu, *QKD Transmitter and transmission method*, U.S. Patent US 2010/0080394 A1
3. J. Duligall, T. Spiller, R. Ionicioiu, R. Beausoleil, D. Fattal, *Photonic quantum system alignment using multiple beams*, U.S. Patent US 2012/0039617 A1
4. D. Fattal, R. Beausoleil, J. Duligall, R. Ionicioiu, *Beam direction sensor*, U.S. Patent US 2012/0120390 A1

$$A1 = 0.4 + 4 * 0.6 = 2.8$$

*R. Ionicioiu* \_\_\_\_\_

## II. ACTIVITATEA DE CERCETARE (A2)

### 2.1 Articole în reviste ISI

nr. publicatie	$n_i^{ef}$	$a_i$	$a_i/n_i^{ef}$
<b>1</b>	1	<b>2.1</b>	2.1
<b>2</b>	1	<b>0.2</b>	0.2
<b>3</b>	3	<b>3.5</b>	1.167
<b>4</b>	4	<b>6</b>	1.5
5	5.33	0.5	0.094
<b>6</b>	2	<b>1.04</b>	0.52
<b>7</b>	2	<b>3.5</b>	1.75
<b>8</b>	2	<b>0.3</b>	0.15
<b>9</b>	3	<b>1.1</b>	0.366
<b>10</b>	4	<b>1.1</b>	0.275
11	5.33	1.1	0.206
12	3	1.3	0.433
<b>13</b>	1	<b>1.1</b>	1.1
<b>14</b>	1	<b>0.5</b>	0.5
<b>15</b>	1	<b>0.2</b>	0.2
16	3	1.2	0.4
17	3	1.2	0.4
18	3	0.7	0.233
<b>19</b>	2	<b>1.8</b>	0.9
<b>20</b>	2	<b>1.5</b>	0.75
<b>21</b>	2	<b>0.8</b>	0.4
<b>22</b>	1	<b>1.3</b>	1.3
<b>23</b>	2	<b>1.5</b>	0.75
<b>24</b>	2	<b>1.4</b>	0.7
25	5	0.4	0.08
26	5.66	0.4	0.070
27	5.66	0.45	0.079
28	5	0.4	0.08
<b>29</b>	3	<b>1.44</b>	0.48
<b>30</b>	3	<b>0.44</b>	0.147
<b>31</b>	2	<b>0.83</b>	0.415
<b>32</b>	1	<b>0.83</b>	0.83

Articole ca prim autor/autor corespondent in **bold**

$$n_i^{ef} = \begin{cases} n_i, & n_i \leq 5 \\ \frac{n_i+10}{3}, & 5 \leq n_i \leq 80 \end{cases} \quad n_i: \text{nr. autori}$$

$a_i$ : scor influență absolut al revistei (www.eigenfactor.org)

$c_i$ : nr. citări (fara autocitări); calculate de la ISI World of Knowledge

$$\mathbf{I} = \sum_i a_i/n_i^{ef} = \mathbf{18.575}$$

**2.2 Articole în reviste ISI (prim autor/autor corespondent)**

$$\mathbf{P} = \sum_i a_i = \mathbf{32.48}$$

$$\mathbf{A2} = \mathbf{I/2} + \mathbf{P/1.5} = \mathbf{30.94}$$

### III. RECUNOAȘTEREA IMPACTULUI ACTIVITĂȚII (A3)

#### 3.1 Citări în reviste ISI

nr. publicatie	$n_i^{ef}$	$c_i$	$c_i/n_i^{ef}$
1	1	2	2
2	1	0	0
3	3	1	0.33
4	4	4	1
5	5.33	4	0.75
6	2	8	4
7	2	54	27
8	2	3	1.5
9	3	22	7.33
10	4	15	3.75
11	5.33	62	11.625
12	3	99	33
13	1	28	28
14	1	0	0
15	1	1	1
16	3	15	5
17	3	117	39
18	3	107	35
19	2	11	5.5
20	2	22	11
21	2	0	0
22	1	16	16
23	2	105	52.5
24	2	29	14.5
25	5	10	2
26	5.66	2	0.352
27	5.66	1	0.176
28	5	0	0
29	3	29	9.67
30	3	50	16.67
31	2	5	2.5
32	1	2	2

$$C = \sum_i c_i/n_i^{ef} = 333.153$$

$$A3 = C/17.5 = 19.037$$

$$\text{Indicator de merit: } A = A1 + A2 + A3 = 52.777$$

## PUBLICATIONS

1. R. Ionicioiu, *Sorting quantum systems efficiently*, Scientific Reports **6**, 25356 (2016); doi:10.1038/srep25356
2. R. Ionicioiu, *Quantum information and quantum technologies*, Rom. Rep. Phys. **67**, 1300 (2015)
3. R. Ionicioiu, R.B. Mann, D.R. Terno, *Determinism, Independence and Objectivity are Incompatible*, Phys. Rev. Lett. **114**, 060405 (2015)
4. R. Ionicioiu, T. Jennewein, R.B. Mann, D.R. Terno, *Is wave-particle objectivity compatible with determinism and locality?*, **Nature Communications** 5:4997, doi:10.1038/ncomm5997 (2014)
5. L.C. Céleri, R.M. Gomes, R. Ionicioiu, T. Jennewein, R.B. Mann, D.R. Terno, *Quantum control in foundational experiments*, Foundations of Physics **44**, 576 (2014)
6. R. Ionicioiu, T.P. Spiller, *Encoding graphs into quantum states: an axiomatic approach*, Phys. Rev. A **85**, 062313 (2012)
7. R. Ionicioiu, D.R. Terno, *Proposal for a Quantum Delayed-Choice Experiment*, Phys. Rev. Lett. **107**, 230406 (2011)
8. R. Ionicioiu, W.J. Munro, *Constructing 2D and 3D cluster states with photonic modules*, Int. J. Quantum Information **8**, 149 (2010)
9. R. Ionicioiu, T.P. Spiller, W.J. Munro, *Generalized Toffoli gates using qudit catalysis*, Phys. Rev. A **80**, 012312 (2009)
10. R. Ionicioiu, A.E. Popescu, W.J. Munro, T.P. Spiller, *Generalized parity measurements*, Phys. Rev. A **78**, 052326 (2008)
11. S.J. Devitt, A.D. Greentree, R. Ionicioiu, J.L. O'Brien, W.J. Munro, L.C.L. Hollenberg, *Photonic module: An on-demand resource for photonic entanglement*, Phys. Rev. A **76**, 052312 (2007)
12. M. Cozzini, R. Ionicioiu, P. Zanardi, *Quantum fidelity and quantum phase transitions in matrix product states*, Phys. Rev. B **76**, 104420 (2007)
13. R. Ionicioiu, *Entangling spins by measuring charge: a parity-gate toolbox*, Phys. Rev. A **75**, 032339 (2007)
14. R. Ionicioiu, *The parity gate: from quantum networks to entanglement generation*, Int. J. Quantum Information **5**, 3 (2007)
15. R. Ionicioiu, *Spintronic devices as quantum networks*, Laser Physics **16**, 1444 (2006), Special Issue on Quantum Information
16. A. Hamma, R. Ionicioiu, P. Zanardi, *Quantum entanglement in states generated by bilocal group algebras*, Phys. Rev. A **72**, 012324 (2005)
17. A. Hamma, R. Ionicioiu, P. Zanardi, *Bipartite entanglement and entropic boundary law in lattice spin systems*, Phys. Rev. A **71**, 022315 (2005)
18. A. Hamma, R. Ionicioiu, P. Zanardi, *Ground state entanglement and geometric entropy in the Kitaev's model*, Phys. Lett. A **337**, 22 (2005)
19. R. Ionicioiu, A.E. Popescu, *Single-spin measurement using spin-orbital entanglement*, New J. Phys. **7**, 120 (2005)
20. A.E. Popescu, R. Ionicioiu, *All-electrical quantum computation with mobile spin qubits*, Phys. Rev. B **69**, 245422 (2004)
21. R. Ionicioiu, I. D'Amico, *An interferometric spin-polarizing device*, Semiconductor Science and Technology **19**, S418 (2004)

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23. R. Ionicioiu, I. D'Amico, *Mesoscopic Stern-Gerlach device to polarize spin currents*, Phys. Rev. B **67**, 041307(R) (2003)
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26. P. Zanardi, I. D'Amico, R. Ionicioiu, E. Pazy, E. Biolatti, R.C. Iotti, and F. Rossi, *Quantum information processing using semiconductor nanostructures*, Physica B **314**, 1 (2002)
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28. E. Biolatti, I. D'Amico, R. Ionicioiu, P. Zanardi, and F. Rossi, *Ultrafast quantum information processing in nanostructured semiconductors*, Superlattices and Microstructures **31**, 107 (2002)
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30. R. Ionicioiu, G. Amaratunga, and F. Udrea, *Quantum computation with ballistic electrons*, International Journal of Modern Physics B **15**, 125 (2001)
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