



Centrum Fizyki Teoretycznej

Polskiej Akademii Nauk

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The annual reporting session of the Center for Theoretical Physics PAS for 2022

March 31, 2023

Onsite: The Institute of Physics PAS
(L. Sosnowski Auditory)
al. Lotników 32/46 , Warszawa

Zoom:

<https://us06web.zoom.us/j/82839643537pwd=RBiRm15blVDMmJheUROKzZ4MXBrUT09>

10:00 Start

10:00 – 12:45 Short talks (hybrid)

10:00 Topic 2: **Marek Kuś**, *Ambiguities of quantization*

10:15 Topic 7: **Oskar Słowik**, Random walks on compact groups and quantum computing

10:30 Topic 1: **Mikołaj Korzyński**, *Distance inequality: a potentially observable consequence of the null energy condition*

10:45 Topic 3: **Krzysztof Pawłowski**, *Solitons in quantum droplets*

11:00 Topic 4: **Ashwani Pandey**, *Wavelength-resolved reverberation mapping of quasar*

11:15 – 11:30 *Coffee break*

11:30 Topic 5: **Łukasz A. Turski**, *Science and Culture. From the mid of XIX century until the birth of the Digital Era*

11:45 Topic 6: **Katja Sagerschnig**, *On a class of geometries with a symmetry*

12:00 Topic 8: **Remigiusz Augusiak**, *Progress on semi-device independent certification*

12:15 Topic 9: **Suhani Gupta**, *Charting the universe on both large and small-scales*

12:30 Topic 10: **Jarosław Korbicz**, *Purifying teleportation*

12:45 Summary (hybrid)

13:00 Buffet and a poster session (only onsite)



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POSTERS

1. *A noisy c-gate for qudits*, A. C. Orthey Jr., P. R. Dieguez, R. Augusiak
2. *Genuinely entangled stabilizer subspaces*, O. Makuta, B. Kuzaka, R. Augusiak
3. *No graph states can be prepared in quantum networks with bipartite sources*, O. Makuta, L. T. Ligthart, R. Augusiak
4. *Dark solitons in dipolar Bose gases and in Bose-Bose mixtures*, J. Kopyciński, M. Łebek, W. Górecki, K. Pawłowski
5. *Objectivity in boson-spin model*, T. H. Lee, J. Korbicz
6. *The efficiency of universal sets of quantum gates*, O. Słowik, A. Sawicki
7. *Random matrix model for approximate t-designs*, P. Dulian, A. Sawicki
8. *Geometry of qudits using Heisenberg-Weyl Operators*, G. Sharma, Sk Sazim, S. Ghosh
9. *Outflows and jets driven by accreting black holes systems*, F. Hossein-Nouri, B. James, G. Urrutia, A. Janiuk
10. *Probing the dependence of dark matter subhalo properties on cosmic web location*, F. Markos-Hunde
11. *CNN based Photometric Redshift Estimation of Galaxies in KiDS*, A. John William Mini Latha
12. *Spatial distribution statistics of observed galaxies: brightness and color dependence*, P. Drozda
13. *Quantum droplets in quasi-1D Bose gas with non-local interactions and super-Tonks effect*, M. Marciniak, M. Łebek, R. Ołdziejewski, W. Górecki, J. Kopyciński, K. Pawłowski
14. *Light Echoes in Active galactic Nuclei*, B. Czerny, R. Prince, A. Pandey, V. K. Jaiswal