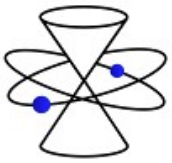

cost Action MP 1405
Quantum Structure of Spacetime

# Quantum 2017

## From Foundations of Quantum Mechanics to Quantum Information and Quantum Metrology & Sensing

(*ad memoriam of Carlo Novero*)

## *Program*

May 7-13, 2017

| Sunday 7 |
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| arrivals |
| **18:00 OPENING - Aperitif Drink Party** |

**[ Bar Blanco, square Vittorio Veneto 21bis ]**

| Monday (May 8) | Tuesday (May 9) | Wednesday (May 10) | Thursday (May 11) | Friday (May 12) |
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|---|---|---|---|---|---|---|
| **Opening and Welcome** | | | | | | |
| **Session I**<br>8:00 – 10:10<br>Aula Magna Rettorato | **Session V**<br>8:25 – 10:05<br>Aula Magna Rettorato | **Session IX**<br>8:25 – 10:05<br>Aula Magna Rettorato | **Session XIII**<br>8:25 – 9:45<br>Aula Magna Rettorato | | **Session XIX**<br>8:20 – 10:00<br>Aula Magna Rettorato | |
| **Session II**<br>10:40 – 13:00<br>Aula Magna Rettorato | **Session VI**<br>10:30 – 12:25<br>Aula Magna Rettorato | **Session X**<br>10:35 – 12:50<br>Aula Magna Rettorato | **Session XIV**<br>10:10 – 12:45<br>Aula Magna Rettorato | | **Session XX**<br>10:30 – 12:15<br>Aula Magna Rettorato | |
| **Session III**<br>14:00 – 16:00<br>Aula Magna Rettorato | **Session VII**<br>13:30 – 15:30<br>Aula Magna Rettorato | **Session XI**<br>14:00 – 15:40<br>Aula Magna Cavallerizza | **Session XV**<br>14:00 – 15:35<br>Aula Magna Rettorato | **Session XVII**<br>14:00 – 15:35<br>Sala Lauree Palazzo Badini | **Session XXI**<br>13:45 – 14:50<br>Aula Magna Rettorato | |
| **Session IV**<br>16:25 – 18:25<br>Aula Magna Rettorato | **Session VIII**<br>15:55 – 18:15<br>Aula Magna Rettorato | **Session XII**<br>16:10 – 18:45<br>Aula Magna Cavallerizza | **Session XVI**<br>16:00 – 19:00<br>Aula Magna Rettorato | **Session XVIII**<br>16:00 – 19:00<br>Sala Lauree Palazzo Badini | **Session XXII**<br>15:25 – 18:10<br>Aula Multi 1 Cavallerizza | **Session XXIII**<br>15:20 – 18:20<br>Aula Allara |
| **Public Event**<br>21:00<br>“Blah-Blah” club | **Poster Session**<br>18:15-19:15 | **Social Dinner**<br>19:30 | 19.00-19:30 Beer party in Poster area | | **Closing Remarks Farewell Party** | |

| Monday 8 (aula magna Rettorato) | | |
|---|---|---|
| 08.00-08.10 | Opening: Gianmaria Ajani, Rector of the University of Torino | |
| 08.10-08.20 | Welcome address: Paola Pisano, Torino City Council, Assessor for Innovation | |
| Session I - Chairperson: E. Predazzi | | |
| 08:30-08:50 | P. Mataloni | Simulating stroboscopic non-Markovian evolution of quantum systems |
| 08:50-09:10 | P. Tombesi | Feedback control in Cavity Optomechanics. |
| 09:10-09:30 | H. Carmichael | Generation of Sub-Poissonian Light of High Photon Number |
| 09:30-09:50 | B. Englert | Common sense in quantum mechanics |
| 09:50-10:10 | L. Vaidman | Is there a common sense answer to the question: Where were the photons passing through nested interferometer? |
| Coffee break (sponsored by Crisel Instruments) | | |
| Session II - Chairperson: M. Zukowski | | |
| 10:40-11:00 | P. Villoresi | Relativistic Effects investigated along Space Quantum Channel |
| 11:00-11:20 | K. Banaszek | Noisy evolution of coherent states in a lossy Kerr medium |
| 11:20-11:40 | R. Filip | Quantum nonlinearities induced in oscillator |
| 11:40-12:00 | L. Krivitsky | Nonlinear Infrared Spectroscopy |
| 12:00-12:20 | H. Zbinden | High-rate semi-device-independent quantum random number generators based on unambiguous state discrimination |
| 12:20-12:40 | S. Padua | Measurement of fractional topological phases with photonic qudits |
| 12:40-13:00 | H. de Guise | Partial distinguishability in fermionic interference |
| 13:00-14:00 | Lunch interval | |
| Session III - Chairperson: S. Kulik | | |
| 14:00-14:20 | I. Jex | Quantum walks and percolation |
| 14:20-14:40 | A. Porzio | Bipartite Continuous Variable Entanglement in the Orbital Angular Momentum Space |
| 14:40-15:00 | M. Barbieri | Strategies for multiparameter estimation |
| 15:00-15:20 | G. Adesso | Optimal continuous variable teleportation of coherent states with finite entanglement |
| 15:20-15:40 | S. Kück | The NV-center in nanodiamond as an absolute single-photon source |
| 15:40-16:00 | U. Andersen | Squeezed light enhanced sensing and cooling of a micro-mechanical oscillator |
| 16:00-16:25 | Coffee break | |
| Session IV - Chairperson: I. P. Degiovanni | | |
| 16:25-16:45 | M. Fedorov | Enormous azimuthal entanglement of noncollinear biphotons in spherical-angle variables and in Cartesian coordinates |
| 16:45-17:05 | A. Meda | Quantifying the backflash radiation for quantum key distribution |
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|---|---|---|
| 17:05-17:25 | F. Daneshgaran | Permutation Modulation for Information Reconciliation in CV-QKD Applications |
| 17:25-17:45 | S. Olivares | Homodyne-like detection via photon-number-resolving detectors: from coherent states discrimination to quantum cryptographic applications |
| 17:45-18:05 | G. Kitaeva | Strongly non-degenerate spontaneous parametric down-conversion for calibration of terahertz-wave detectors |
| 18.05-18.25 | M. D'Angelo | Correlation plenoptic imaging |
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| 21:00 | **Public Event at the "Blah-Blah" club (via Po, 21): "Quantum & The City" (public 30 min seminar in Italian by Dr. M. D'Angelo – University of Bari, followed by the screening of "The Theory of Everything" in original language, with subtitles in Italian)** | |

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|---|---|---|
| **Tuesday 9 (aula magna Rettorato)** | | |
| Session V - Chairperson: M. Chekhova | | |
| 08:00-08:25 | Arrival and informal meetings of participants | |
| 08:25-08:45 | G. Kurizki | Quantum sensing of noisy systems under dynamical control |
| 08:45-09:05 | M. Bondani | Photon antibunching in the mesoscopic intensity domain |
| 09:05-09:25 | V. Man'ko | Hidden Quantum Correlations and Entanglement in Systems without Subsystems As a Resource for Quantum Technologies |
| 09:25-09:45 | F. Sciarrino | Experimental violation of local causality in a quantum network |
| Coffee break (sponsored by Springer Verlag) | | |
| Session VI - Chairperson: B.Englert | | |
| 10:20-10:40 | G. Leuchs | Free space communication with continuous variables |
| 10:40-11:00 | S. Kulik | Three-Photon spectroscopy of linear media |
| 11:00-11:20 | M. Chekhova | Unbalanced SU(1,1) interferometer: phase measurement below the shot-noise level with high tolerance to detection losses |
| 11:20-11:40 | C. Lupo | Ultimate precision of adaptive noise estimation |
| 11:40-11.55 | A. De Pasquale | Precision quantum thermometry achieved via local and sequential measurements |
| | | |
| Lunch interval | | |
| Session VII - Chairperson: G. Leuchs | | |
| 13:30-13:50 | P. Horodecki | On the realistic randomness amplification against nosignaling adversary |
| 13:50-14:10 | F. Fröwis | Large Entanglement |
| 14:10-14:30 | L. A. Wu | From Mo Zi to the Mo Zi satellite: a brief history of optics in China |
| 14:30-14:50 | M. Paris | All-optical quantum simulator of qubit noisy channels |
| 14:50-15:10 | A. Gatti | Quantum properties of backward parametric down-conversion |
| 15:10-15:30 | A. Isar | Generation of quantum correlations in two-mode Gaussian open systems |
| 15:30-15:55 | Coffee break | |
| Session VIII - Chairperson: M. Paris | | |
| 15:55-16:15 | C. Macchiavello | Multipartite entanglement enhances quantum key distribution in networks |
| 16:15-16:35 | Y. Kim | Einstein-Podolsky-Rosen Entanglement of Narrow-Band Photons from Cold Atoms |
| 16:35-16:55 | L. Sanchez-Soto | Quantum metrology at the limit with extremal Majorana constellations |
| 16:55-17:15 | R. Zambrini | Quantum synchronization as a local siganture of super and subradiance |

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|---|---|---|
| 17:15-17:35 | N. Imoto | Frequency-qubit manipulation of photons |
| 17:35-17:55 | J. von Zanthier | Quantum Imaging with Incoherent Light |
| 17:55-18:15 | S. Tanzilli | Spectrally resolved white-light quantum interferometry for high-accuracy chromatic dispersion measurements |
| 18:15-19:15 | **Poster Session (beer party)** | |

| Wednesday 10 | | |
|---|---|---|
| Session IX - Chairperson: J. Forneris (aula magna Rettorato) | | |
| 08:05-08:25 | Arrival and informal meetings of participants | |
| 08:25-08:45 | A. Greentree | Laser threshold magnetometry: new approaches to sensing with diamond |
| 08:45-09:05 | C. Becher | Coherent control of silicon-vacancy centers in diamond |
| 09:05-09:25 | F. Jelezko | Quantum sensing with diamond qubits |
| 09:25-09:45 | J. Meijer | Single Ion Implantation: An important tool for fabrication of quantum devices based on NV-centers |
| 09:45-10:05 | S.Eaton | Diamond photonics and NV centers enabled by femtosecond laser writing |
| Coffee break | | |
| Session X - Chairperson: A. White (aula magna Rettorato) | | |
| 10:35-10:50 | A. White | Generation of Mechanical Interference Fringes by Multi-Photon Quantum Measurement |
| 10:50-11:10 | M. Bellini | Measurement-induced quantum state engineering and emulation of strong optical nonlinearities |
| 11:10-11:30 | S. Straupe | Adaptive Measurements in Experimental Quantum Process Tomography |
| 11:30-11:50 | M. Palma | Quantum non-Markovianity induced by Anderson localization |
| 11:50-12.10 | J. Perina | Internal dynamics of intense twin beams and their coherence |
| 12:10-12:30 | S. Polyakov | Full Characterization of Single-Photon States in a Single Measurement |
| | | |
| Lunch interval | | |
| Session XI - Chairperson: L.Vaidman (aula magna Cavallerizza) | | |
| 14:00-14:20 | S. Pascazio | Entanglement generation in one-dimensional QED |
| 14:20-14:40 | M. Peev | Towards industrial Discrete Modulation Continuous Variable Quantum Key Distribution System |
| 14:40-15:00 | O. Pfister | Quantum information and quantum metrology with continuous variables |
| 15:00-15:20 | Y. Shih | From Ghost Imaging to Turbulence-free Camera |
| 15:20-15:40 | J. Bergou | Complementarity in multi-path interferometers |
| 15:40-16:10 | Coffee break (sponsored by Micro Photon Devices) | |
| Session XII - Chairperson: R.Ramponi (aula magna Cavallerizza) | | |
| 16:10-16:30 | Z. Hradil | Fischer information and resolution beyond the Rayleigh limit |
| 16:30-16:50 | A. Jamiolkowski | Comments on constructivness of some procedures in the theory of open systems. |
| 16:50-17:10 | F. Raffa | Exact spectrum of the multi-photon Jaynes-Cummings model |
| 17:10-17:30 | W. Vogel | Nonclassicality versus Entanglement of Radiation Fields |
| 17:30-17:50 | J. Croca | Quantum world return to a realistic view |
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|---|---|---|
| 17:50-18:10 | S. Takeuchi | Photonic quantum information and metrology: highresolution quantum optical coherence tomography and a photonic quantum circuit for CSWAP |
| 18:10-18:30 | D. Bruss | Maximal Coherence and the Resource Theory of Purity |
| 18:30-18:45 | D. Chruscinski | Sufficient conditions for a memory-kernel master equation |
| 19:30 | **Social Dinner (sponsored by Micro Photon Devices)** | |

## Thursday 11

Session XIII - Chairperson: Y. Shih (aula magna Rettorato)

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|---|---|---|
| 08:05-08:25 | Arrival and informal meetings of participants | |
| 08:25-08:45 | A. Smerzi | Witnessing entanglement with the Fisher information: from metrology to topological quantum phase transitions |
| 08:45-09:05 | S. Mancini | Quantum channels from reflections on moving mirrors |
| 09:05-09:25 | J. Piilo | Remote polarization entanglement generation by local dephasing and frequency upconversion |
| 09:25-09:45 | E. Cohen | Local consistency of quantum nonlocality |

Coffee break

Session XIV - Chairperson: A. Garuccio (aula magna Rettorato)

| | | |
|---|---|---|
| 10:10-10:30 | G. Ferrini | Continuous-Variable Instantaneous Quantum Computing is hard to sample |
| 10:30-10:50 | C. Monken | Mode analysis of higher-order transverse-mode correlation beams in a turbulent atmosphere |
| 10:50-11:10 | R. Floreanini | Quantum fluctuations and mesoscopic entanglement in many-body systems |
| 11:10-11:30 | F. Petruccione | Open Quantum Brownian motion: Gaussian and non-Gaussian behaviour |
| 11:30-11:50 | H. Weinfurter | Quantum State Tomography - what to do with negative eigenvalues |
| 11:50-12:10 | P. Kok | Optimal Quantum Metrology of Distant Black Bodies |
| 12:10-12:30 | K. Zyczkowski | Strongly entangled states of homogenous and heterogeous multipartite systems |
| 12:30-12:50 | A. Avella | Quantum measurement in weak coupling regime: from non-contextuality in weak values to protective measurements |
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Lunch interval

**Parallel Section 1 (Aula Magna Rettorato)**

Session XV - Chairperson: C. Monken

| | | |
|---|---|---|
| 14:00-14:20 | T. Purdy | Applications of Optomechanical Quantum Correlations |
| 14:20-14:40 | P. Zanardi | Coherence Power of Quantum Operations |
| 14:40-15:00 | A. Laing | Boson sampling and quantum supremacy |
| 15:00-15:20 | V. Tamma | Remote sensing and quantum logic simulations based on second order interference with a single chaotic source |
| 15:20-15:35 | J. Sabines | Achieving sub-shot-noise absorption-spectroscopy with avalanche photodiodes and with a charge-coupled device |

Coffee break

| Session XVI - Chairperson: H. Weinfurter | | |
|---|---|---|
| 16:00-16:15 | J. Szuniewicz | Second order phase holograms without coherence between the sources |
| 16:15-16:30 | O. Tikhonova | Engineering of Spectral Properties of Non-classical Squeezed States of Light using a Nonlinear Interferometer |
| 16:30-16:45 | K. Katamadze | Multi-photon subtraction with use of a single APD-based detector applied to thermal states of light |
| 16:45-17:00 | I. Apellaniz | Witnessing the metrological efficiency with few expectation values |
| 17:00-17:15 | A. Allevi | Non-trivial structures in very intense twin beam states |
| 17:15-17.30 | M. Unternahrer | Coincidence Detection of Spatially Correlated Photon Pairs with a Novel Type of Monolithic Time-Resolving Detector Array |
| 17:30-17:45 | E. Bernardi | Toward Nitrogen Vacancy Center based Scanning Near Field Microscopy |
| 17:45-18:00 | G. Vitagliano | Entanglement and Extreme Spin Squeezing of unpolarized states |
| 18:00-18.15 | P. Sharapova | Hong-Ou-Mandel interference in an integrated quantum optical waveguide device |
| 18:15-18:30 | J. Dziewior | Weak Values, Eigenvalues and Expectation Values |
| 18:30-18:45 | A. Semenov | Quantum-light channels in the atmosphere |
| 18:45-19:00 | M. Genoni | Cramér-Rao bound for time-continuous measurements in linear Gaussian quantum systems |

| Parallel Section II (Sala lauree palazzo Badini) | | |
|---|---|---|
| Session XVII - Chairperson: A.Greentree | | |
| 14:00-14:20 | J. McCallum | SiC single photon sources for applications in quantum information science |
| 14:20-14:40 | L. Memarzadeh | Thermal effects on coherence and excitation transfer |
| 14:40-15:00 | J. Casanova | Adaptive dynamical decoupling sequences for computing and sensing in diamond devices |
| 15:00-15:20 | V. Karimipour | Time independent quantum circuits with local interactions |
| 15:20-15:35 | S. Ditalia Tchernij | Electrical control of NV centers in diamond with graphitic electrodes fabricated by MeV ion implantation |
| Coffee break | | |
| Session XVIII - Chairperson: A. Migdall | | |
| 16:00-16:15 | P. Giorda | Coherence in Quantum Estimation |
| 16:15-16:30 | F. Caruso | Quantum Sensing by Stochastic Quantum Zeno |
| 16:30-16:45 | Y. S. Teo | Joint measurement of complementary observables in moment tomography |
| 16:45-17:00 | R. Augusiak | Random symmetric states for robust quantum metrology |
| 17:00-17:15 | F. Giraldi | Time evolution of closed or open quantum systems with logarithmic-like spectra |
| 17:15-17.30 | A. Ceré | Time-resolved Scattering of a Single Photon by a Single Atom |
| 17:30-17:45 | M. Belogolovskii | Quantum coherent transport in a three-arm superconducting beam splitter |
| 17:45-18:00 | K. An | Superradiance by atoms meters apart |
| 18:00-18:15 | M. Jarzyna | Parameter estimation in the presence of general Gaussian dissipative reservoir |
| 18:15:18:30 | S. Filippov | Beyond quantum Zeno subspace effect: Effective Hamiltonian and non-unitary dynamics at finite repetition rate of measurements |
| 18:30-18:45 | A. Mostafazadeh | Transfer Matrix Reformulation of Scattering Theory in Two Dimensions and Its Applications in Optics |
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# Friday 12

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| Session XIX (aula magna Rettorato)<br>**Testing Planck Scale: from Cosmology to Quantum Optics** - Chairperson: A.Ceresole | | |
| 08:05:08:20 | Arrival and informal meetings of participants | |
| 08:20-08:40 | P. Aschieri | Quantum Structure of Spacetime |
| 08:40-09:00 | L. Castellani | Quantum gravity models |
| 09:00-09:20 | L. Maccone | Quantum time mechanism: towards a quantum spacetime |
| 09:20-09:40 | H. T. Elze | Quantumness of Hamiltonian cellular automata and indications for “prequantum” states |
| 09:40-10:00 | G. Marmo | Dynamical vector fields on the manifold of quantum states |
| Coffee break | | |
| Session XX (aula magna Rettorato)<br>**Testing Planck Scale: from Cosmology to Quantum Optics** - Chairperson: L. Castellani | | |
| 10:35-10:55 | G.Ghirardi | Recollection of my friend Alberto Rimini |
| 10:55-11:15 | G. Amelino Camelia | Probing quantum-spacetime structure with GRB photons and neutrinos |
| 11:15-11:35 | G. M. D’Ariano | Lorentz transformations from Quantum Theory of numerable systems with interactions that are local, homogeneous, and isotropic. |
| 11:35-11:55 | F. De Martini | Cosmological inflation, quantum Higgs field and the cosmological constant paradox in the Weyl-geometrical universe |
| 11:55-12:15 | D. Vitali | Enhancing sideband cooling with feedback-controlled light: quantum nanomechanical resonators for testing deformed commutators |
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| Lunch interval | | |
| Session XXI (aula magna Rettorato)<br>**Testing Planck Scale: from Cosmology to Quantum Optics** - Chairperson: L. Maccone | | |

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| 13:45-14:10 | M. Aspelmeyer | tbc |
| 14:10-14:30 | A. Bassi | Wave function collapse and gravity |
| 14:30-14:50 | C. Curceanu | Quantum mechanics under X Rays in the Gran Sasso underground laboratory |
| Coffee break | | |

| Parallel Section 3 (Aula Multi1 Cavallerizza) | | |
|---|---|---|
| Session XXII - Chairperson: M. Man'ko | | |
| 15:25-15:40 | F. Galve | Microscopic origins of collective dissipation in extended systems |
| 15:40-15:55 | E. Enrico | Quantum coherently-driven charge transport across two SQUIPTs coupled by a Coulomb island |
| 15:55-16:10 | T. Moroni | Towards a scalable semiconductor platform entangled/single photon emitters based on site-controlled quantum dots |
| 16:10-16:25 | E. Agudelo | Conditional Hybrid Nonclassicality |
| 16:25-16:40 | S. Suciu | Quantum Information Resources in two-mode Gaussian Open Systems |
| 16:40-16:55 | U. Seyfarth | Higher-order uncertainty relations for polarization operators |
| 16:55-17:10 | V. Dodonov | New uncertainty relations for two, three and four observables |
| 17:10-17:25 | L.A. Markovich | The separability property in confined quantum systems |
| 17:25-17:40 | A.S. Losev | Quantum memory cell as a controllable Mach-Zehnder interferometer |
| 17:40-17:55 | G. Castagnoli | Fundamental explanation of the quantum computational speedup |
| 17:55-18:10 | H. Y. Yau | Temporal Vibration Operator in a Field with Time as a Dynamical Variable |
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| Section XXIII (Aula Allara)<br>**Testing Planck Scale: from Cosmology to Quantum Optics**<br>Chairperson: M. Fedorov | | |
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| 15:20-15:45 | G. Gubitosi | Spacetime dimension at the Planck scale |
| 15:45-16:05 | R. Keil | Testing the foundations of quantum mechanics with multi-path interferometers |
| 16:05-16:25 | S. Bose | Probing macroscopic quantum superpositions and the quantum nature of gravity through levitated objects |
| 16:25-16:40 | P. Traina | Toward a Quantum enhanced holometer |
| 16:40-16:55 | E. Moreva | An experiment exemplifying the time as an emergent property |
| 16:55-17:15 | A. Khrennikov | The present situation in quantum theory and its merging with general relativity |
| 17:15-17:30 | J. Korbicz | Information transfer during the universal gravitational decoherence |
| 17:30-17:45 | D. Bruschi | Towards relativistic and quantum technologies. |
| 17:45-18:00 | C. Dewdney | The nature of the photon in David Bohm's interpretation of quantum field theory |
| 18:00-18:20 | H. Nikolic | Interpretation miniatures |
| 18:20-19:00 | **Closing Remarks and Farewell party** | |

## Saturday 13

Departures

# POSTER SESSION

Posters exhibition is open during the whole duration of the Workshop

The official presentation is scheduled on **Tuesday 10**, 18:15-19:15

| | | |
|---|---|---|
| 1 | Asoudeh M. | Quantum secret sharing without entanglement |
| 2 | Balybin S. N. | Coherent Control of Atomic q-bits by Non-classical Light and Phase Measurements |
| 3 | Bohmann M. | Entanglement and Nonclassicality in Atmospheric Channels |
| 4 | Borsarelli M.<br>Azeglio S. | Leggett-Garg inequality violation exploiting Weak Measurements |
| 5 | Borshchevskaia N. | Calculation of Three-photon Down-conversion Phase-matching in Whispering Gallery Microresonators |
| 6 | Chesi G. | Phase-shift keyed binary channels in the presence of phase noise using displaced squeezed states |
| 7 | Costanzo L. S. | Measurement-induced strong Kerr nonlinearity for weak quantum states of light |
| 8 | Dall'Arno M. | Device-independent tests of quantum states |
| 9 | Degiovanni I. | Optical metrology for Quantum-Enhanced Secure Communication |
| 10 | Duprey Q. | Meaning of null weak values |
| 11 | Eaton S. | Femtosecond laser writing of diamond optical waveguides and NV centers for quantum computation and magnetometry |
| 12 | Ferreri A. | Four-photon interference in integrated LiNbO3 platform. |
| 13 | Hamici-Bendimerad A.H. | Fidelity of a d-dimensional optimal non-extensive asymmetric phase-covariant cloner |
| 14 | Hassani M. | Information theoretic approach to quantum metrology |
| 15 | Herzog U. | Optimal quantum state identification with qudit-encoded unknown states |
| 16 | Kada W. | Focused particle beam writing for generation of structured distribution of NV color centers in single crystalline CVD diamond |
| 17 | Koroli V.I. | Higher-order squeezing oscillations of the single-mode cavity field interacting with a three-level radiator |
| 18 | Krumm F. | Time-dependent quantum correlations in phase space |
| 19 | Kuehn B. | Anomalous quantum correlations of squeezed light |
| 20 | Kurochkin V. | Urban QKD test for phase and polarization encoding devices |
| 21 | Liorni C. | Stroboscopic evolutions of quantum states in a double Sagnac interferometric configuration |
| 22 | Losero E. | Sub-Shot-Noise Wide Field Microscopy |
| 23 | Machusky E. | Analytics of quantum physics |
| 24 | Meis C. | Vector Potential Quantization in QED and the Photon intrinsic properties |
| 25 | Mihaescu T. | Gaussian quantum steering of two bosonic modes in a squeezed |

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|---|---|---|
| | | thermal environment |
| 26 | Moreva E. | Towards diamond sensing with NV centers |
| 27 | Nolan S. | Generalised Echoes for Robust, Optimal Quantum Enhanced Metrology |
| 28 | Pepe F. V. | Plenoptic properties of entangled light |
| 29 | Piacentini F. | Genetic quantum measurements |
| 30 | Popolitova D. | Interaction and Entanglement of Few-Photon Quantum Light with Atoms |
| 31 | Rashkovskiy S.A. | Einstein-Podolsky-Rosen-Bohm Gedankenexperiment with classical light waves |
| 32 | Rebufello E. | Experimental Realisation of Protective measurements |
| 33 | Riccardi A. | Tight entropic uncertainty relations for systems with dimension three to five |
| 34 | Ruppert L. | Light-matter quantum interferometry with homodyne detection |
| 35 | Ryl S. | Quantifying nonclassicality by characteristic functions |
| 36 | Sabin C. | Quantum detection and quantum simulation of traversable wormholes |
| 37 | Mkam Tchouobiap S. E. | Landau-Zener-Stückelberg interferometry and switching quantum state of qubits in an open-multibands magnetic quantum wire |
| 38 | Tekuru S. | Quantum enhanced holometer |
| 39 | Traina P. | Single photons sources with color centers in diamond |
| 40 | Virzì S. | Optimal estimation of Entanglement and Discord |
| 41 | Zakharov R. | Control of spatial features and mode structure of squeezed non classical light in two-crystal scheme |
| 42 | Zhang A.X. | Demonstration of photonic side channel attacks on cipher chips |
| 43 | Zhitlukhina E. | Quantum phase-slip phenomenon in wide superconducting films |
| | | |