



Poster Session A. Wednesday February 1st (morning and afternoon)

- A.1 Yong Xie:** *Identification of Twisted Bilayer Transition Metal Dichalcogenides by Combination of Deep learning and OpenCV*
- A.2 Abel Martínez-Suarez:** *Energy tunable of Single Photon Emitters in Hexagonal Boron Nitride by Ion Irradiation*
- A.3 Jorge Cervantes Villanueva:** *Strong exciton-phonon coupling in semiconducting monolayer 2H-MoTe₂*
- A.4 María José Calderón:** *Electronic correlations in the normal state of twisted bilayer graphene*
- A.5 Sergio Pezzini:** *Twisted devices from CVD graphene*
- A.6 Eduardo B. Molinero:** *High harmonic generation with a twist: all-optical characterization of magic-angle twisted bilayer graphene.*
- A.7 Gabriel Caballero Catalan:** *High harmonic generation with a twist: all-optical characterization of magic-angle twisted bilayer graphene.*
- A.8 Julia García Pérez:** *Performing an array of MoS₂ micro-drum resonators*
- A.9 Marcos Gadea García:** *Highly tunable opto-electrical response in FePS₃-MoS₂ van der Waals p-n heterojunctions*
- A.10 Carlos Sánchez Sánchez:** *Study of the hydrodynamic electron flow regime in ultrapure 2D materials*
- A.11 Eudomar Henríquez Guerra:** *Photo-thermoelectric effect in MnBi₂Te₄ devices revealed by scanning photocurrent microscopy*
- A.12 Enrique Terán García:** *Negative reflection of nanoscale-confined polaritons in a low-loss natural medium*
- A.13 Juan Salvador Sánchez:** *Generation and control of non-local chiral currents in graphene superlattices by orbital Hall effect*
- A.14 Manuel Suárez Rodríguez:** *Nonlinear transport effects in chiral elemental Tellurium*
- A.15 Gonzalo Álvarez Pérez:** *Negative reflection of nanoscale-confined polaritons in a low-loss natural medium*
- A.16 Cristina N. Hernández Fuentevilla:** *Spin filtering induced by a magnetic insulator stripe on graphene*
- A.17 Inés Sánchez de Movellán Sáiz:** *Structure and properties of layered materials: role of orthorhombic instability*
- A.18 Pablo Moles Matías:** *Electronic transport through twisted bilayer graphene flakes with defects*
- A.19 María Rodríguez Losada:** *Non-perturbative indirect exchange in spin-valley coupled 2D crystals*
- A.20 Jan Phillips:** *Dynamic stability and magnetism of David star charge density waves in transition metal dichalcogenide systems*
- A.21 Karolina Z. Milowska:** *The Origin of Amphiphatic Nature of Short and Thin Pristine Carbon Nanotubes - a Fully Recyclable 1D Emulsion Stabilizers*
- A.22 Marcel S. Claro:** *Van der Waals Epitaxy and properties of GaSe and InSe superlattices*
- A.23 Joan Ripoll Sau:** *Phase engineering of two-dimensional Transition Metal Ditellurides*

- A.24 Vittorio Bellani:** *Local and non-local transport of composite Fermions*
- A.25 M. Dolores Merchán:** *Synthesis and characterization of hybrids materials of transition metal oxides and graphene oxide. Evaluation of their properties as CO₂ adsorbents and as supercapacitor electrodes*
- A.26 José López Molina:** *Dynamic light scattering applied to soft systems out of thermal equilibrium*
- A.27 Gulsum Ersu:** *Method of Rapid Prototyping of Paper-based Devices using Solution-Processable Nanomaterials*
- A.28 Thomas Pucher:** *High-mobility MoS₂ phototransistor using biodegradable albumen dielectrics*
- A.29 Reyes Calvo:** *Electronic and ionic conduction in biomaterials based on engineered proteins*
- A.30 José Alejandro Ruiz Torres:** *Unveiling the structural and optical properties of anisotropic hybrid Bi₂S₃@Au nanocomposites*
- A.31 Adrian Arenas Gullo:** *Performing 3DDLS to study the dynamics of dense microgel suspensions*
- A.32 Esther Barrena:** *Charge-Transfer Complex Formation in Organic Semiconductor Films and its role in Surface Doping*
- A.33 Jose M. Pereira:** *Percolating Superconductivity in Air-Stable Organic-Ion Intercalated MoS₂*
- A.34 Ignacio Gimeno:** *Strong coupling for spin clock states in electronuclear spin qubits based on vanadyl porphyrin molecules*
- A.35 Jaime Bueno Benito:** *Modelling and optimization of perovskite/perovskite tandem solar cells through plasmonic effects*
- A.36 Ana Isabel Fernández-Tresguerres:** *Directional strong-coupling between nanolight and organic molecules reconfigurable α -MoO₃ trilayers*
- A.37 Carlos Sabater:** *Molecular electronics: insight from simulations and calculations*
- A.38 Manuel Martín Bravo:** *An apophatic description of spherical shells*
- A.39 Maximilian Bailey:** *Photocatalytic Janus microswimmers as microstirrers*
- A.40 César Pascual García:** *Graphene Liquid Gate Field Effect Transistors transducing amino acid fingerprints for protein*
- A.41 Ramon Planet:** *The uncanny weight of granular columns*
- A.42 Alejandro Rivelles:** *FORC analysis in arrays of interacting nanodots*
- A.43 Oscar Iglesias:** *Tunable magnetic equilibrium configurations in dipolar helices*
- A.44 Jinan H. Al Shuhaib:** *Strontium Titanium Chalcogenide Perovskite Photoanodes for H₂ Production*
- A.45 Maha Labani:** *Design and control of a Fresnel zone plate lens in silicon substrates*
- A.46 El Hadj Abidi:** *Resolution enhancement beyond diffraction limit using the terajet effect*
- A.47 Daniel Carrasco Madrigal:** *Ga₂O₃:Cr nanowire-based optical microcavities for thermometry*
- A.48 José Balduque Picazo:** *Resonant tunneling energy harvesters: improving performance via quantum interference*
- A.49 Ramón Bernardo Gavito:** *Exploiting nonlinearities of two-dimensional micro-drum resonators for random number generation*
- A.50 Emilio Artacho:** *Floquet theory of electronic stopping of nuclear projectiles in solids*
- A.51 David Hernández Pinilla:** *Pulsed plasmonic solid-state nanolasers assisted by 2D transition metal dichalcogenides*
- A.52 Jorge Quereda Bernabeu:** *Scalable and low-cost fabrication of flexible WS₂ photodetectors on polycarbonate.*
- A.53 Rania Daoudi:** *Photoluminescence properties of carbon nanodots with high nitrogen level*
- A.54 Óscar Pozo Ocaña:** *Multipole description of optical spatial dispersion in crystals*
- A.55 Julia García Prieto:** *Fabrication of Single Photon Emitters in Hexagonal Boron Nitride by Ion Irradiation*
- A.56 Ignacio López Quintás:** *Analysis of femtosecond-laser induced damage tracks in non-linear crystals by second-harmonic-generation microscopy*

- A.57 Yuriko Baba:** *Emergence of Floquet band structure in Dirac Hamiltonians by short pulse irradiation*
- A.58 José Álvarez Cuervo:** *Twistoptics: Anisotropic Polaritons in Heterostructures made of an Arbitrary Number of Rotated Thin Layers*
- A.59 Sebastian Roca Jerat:** *Suppression of superradiance by magnetic correlations*
- A.60 Javier Fernández Martínez:** *Silver nanoparticle chains as subwavelength guides for ultra-long-distance fluorescence transmission*
- A.61 Miguel Ángel Sánchez Martínez:** *Unconventional fermions and where to find them: linear and nonlinear optical responses of multifold semimetals CoSi and RhSi*
- A.62 Alberto Rodríguez:** *Quantum chaos in the Bose-Hubbard model*
- A.63 Andrei Bylinkin:** *Hyperbolic light interacting with molecules*
- A.64 Rodrigo de Paula Almeida Lima:** *Out of equilibrium dynamical properties of Bose-Einstein condensates in ramped up weak disorder*
- A.65 Luis Brey:** *Out of equilibrium dynamical properties of Bose-Einstein condensates in ramped up weak disorder*
- A.66 Pepa Martínez-Pérez:** *Quantum cavities based on magnonic textures*
- A.67 Marta García Olmos:** *Model of screening in intrinsic disordered graphene*
- A.68 Vito Clericò:** *Clean room processes for 2D materials: side contacts and etching through cryogenic temperature*
- A.69 M. Pilar López Sancho:** *Topological states in finite graphene nanoribbons*
- A.70 Jose Antonio Moreno:** *Scanning Tunneling Spectroscopy in topological Dirac semimetal ZrTe₅*
- A.71 Raquel Sánchez Barquilla:** *Electronic band structure and atomic level Landau quantization in the type-II Weyl semimetal WTe₂ visualized by Scanning Tunneling Microscopy*
- A.72 Hayden Salway:** *Next generation, direct X-ray detectors based on perovskite-MOF composites*
- A.73 Juan José Esteve-Paredes:** *Bulk photovoltaic effect in 2D materials from density functional theory and real-time dynamics*
- A.74 Andrea Peralta Somoza:** *Large topological Hall effect and spin textures in La_{0.7}Sr_{0.3}MnO₃ / SrIrO₃ bilayers*
- A.75 Javier Martín Sánchez:** *Focusing of In-plane Hyperbolic Polaritons in Van der Waals Crystals*
- A.76 Hernán Santos:** *Li-Diffusion processes through Carbon Nanotube / Graphene interfaces: anode material for solid-state battery application*
- A.77 Jorge Alejandro Budagosky Marcilla:** *A coarse-grained approach for growth simulations of metal oxides and polymers on planar/nanostructured substrates*
- A.78 Josu Diego López:** *Mechanical and acoustic properties of graphene explained thanks to anharmonic effects*
- A.79 Aitana Tarazaga Martín-Luengo:** *Multiple and spectrally robust photonic magic angles in reconfigurable α -MoO₃ trilayers*
- A.80 Elena Pinilla:** *Accurate transfer of individual nanoparticles onto single photonic nanostructures*
- A.81 Javier Rodríguez:** *Interaction-driven Circular Dichroism through absorption modes in Triskelia Nanostructures*
- A.82 Marta Fernández Lomana:** *Vortex lattice at high magnetic fields and charge density wave in KCaFe₄As₄ and CaK(Fe_{0.988}Mn_{0.012})*

Poster Session B. Thursday February 2nd (morning and afternoon)

- B.1** **Fernando Bartolomé:** *Ferromagnetism on a single atom-thick 2D-metal-organic framework*
- B.2** **Meritxell Toda:** *Synthesis and characterization of perovskite thin films by polymer-assisted deposition for spintronic application*
- B.3** **Amina Hadjoudja:** *Field-induced spin wave reflection by domain walls in synthetic antiferromagnets*
- B.4** **Diego Caso:** *Dynamics and reversible control of the vortex Bloch point domain wall in short cylindrical magnetic nanowires*
- B.5** **Zahia Ferhat:** *Exchange bias alteration mediated by layers with perpendicular magnetic anisotropy*
- B.6** **Amina Mazouz:** *Spintronic devices based on domain wall logic*
- B.7** **Pablo Camarero Linares:** *Manipulation and characterization of cell spheroids by photovoltaic ferroelectric platforms*
- B.8** **Víctor Zamora:** *Resistance Switching in Freestanding BaTiO₃ Layers*
- B.9** **Irián Sánchez Ramírez:** *(TaSe₄)₃I: Reconciling transport, optics and ARPES*
- B.10** **Rafael Delgado García:** *Magnetization Reversal Processes of Highly Anisotropic Corrugated Thin Films*
- B.11** **Isabel Barbero Velasco:** *NdNiO₃-BaTiO₃ Ferroelectric Tunnel Junctions*
- B.12** **Andrea Aguirre Baños:** *Tunable ferromagnetic order in 2D layered transition metal dichlorides*
- B.13** **Fernando Gallego Toledo:** *Study of Spin-to-charge conversion effect in ferromagnet/2DEG based nanodevices: The reading section of the MESO device*
- B.14** **Ana García-Page:** *Dragging of Berry curvature in ferromagnetic Weyl semimetals NiMnSb and PtMnSb*
- B.15** **Lucía Martín Pérez:** *Direct magnetic evidence, functionalization and low-temperature magneto- electron transport in liquid-phase exfoliated FePS₃*
- B.16** **Fernando Luis:** *Size-dependent dipolar ferromagnetism in micro- and nano-molecular crystals*
- B.17** **Nayara Carral Sainz:** *Automatic procedure to obtain tight-binding parameters for second-principles simulations. The case of SrTiO₃*
- B.18** **Julia Herrero-Albillos:** *Automatic procedure to obtain tight-binding parameters for second-principles simulations. The case of SrTiO₃*
- B.19** **Marcel S. Claro:** *Thermal transport on few-layers Fe₃GeTe₂*
- B.20** **Lucas Pérez:** *Tailoring the magnetization processes of chemically modulated cylindrical nanowires*
- B.21** **Isabel Tenreiro:** *Hybrid optical-electrical sensing of memristors based in LSMO/BTO/ITO ferroionic tunnel junctions*
- B.22** **Montserrat Xochitl Aguilar Pujol:** *Magnon currents excited by the spin Seebeck effect in ferromagnetic EuS thin films*
- B.23** **Isabel Cristina Arango Gutierrez:** *Spin-to-charge conversion in Bi_xSe_{1-x} from all-electrical nanostructured devices*
- B.24** **Jone Mencos Frechilla:** *Looking for the spin swapping effect*
- B.25** **Yaiza Asensio García:** *Modulating the magnetic properties of layered hybrid organic-inorganic metal-halide perovskites by chemical design*
- B.26** **Daniel Tezze:** *Tuning the magnetism of NiPS₃ and MnPS₃ through organic ion intercalation*
- B.27** **Marcos Rubín Osanz:** *Decoherence-free molecular spin qubits with chemically designed frequencies*
- B.28** **Miguel Moreno Ugeda:** *Superconducting dome by tuning through a Van Hove singularity in a two-dimensional metal*

- B.29 Ignasi Fina Martínez:** *Stress effects on ferroelectric doped epitaxial HfO₂ oxide films and its impact on functional properties*
- B.30 Gabriel Rodríguez Rodríguez:** *Low temperature MFM characterization of adjustable 3D ferrimagnetic NdCo/GdCo/NdCo trilayers*
- B.31 Adriana I. Figueroa:** *Probing strain-induced ferromagnetism in epitaxial SrMnO₃ films*
- B.32 Ana Parente:** *Low dimensional effects in artificial spin ices and superconducting nanostructures*
- B.33 Yelko del Castillo Hernández:** *Certifying entanglement of spins on surfaces using ESR-STM*
- B.34 Javier García Alonso:** *In-situ characterization of NMC particles with applications in Li-ion batteries*
- B.35 José Joaquín Pérez Grau:** *Layer-dependent evolution of the optical properties in 2D CrI₃ mapped by hyperspectral imaging*
- B.36 Jesús Ortiga Fibla:** *Layer-dependent evolution of the optical properties in 2D CrI₃ mapped by hyperspectral imaging*
- B.37 Laura Fernández García:** *Magnetic Domain Wall Ferromagnetic Resonance Confirmed by Magnetotransport Measurements and Kerr Microscopy*
- B.38 Patricia Ferrer Alcaraz:** *A Versatile 3D Printable Scanning Tunneling Microscope*
- B.39 Emanuel Alberto Martínez:** *Observation of an anisotropic two-dimensional electron gas at the (110) surface of KTaO₃*
- B.40 Alejandra Guedeja-Marrón:** *Atomic resolution studies of low dimensional Bi-doped Cu nanowires for spintronics applications*
- B.41 Fran Romero-Lara:** *Synthesis and Characterization of Magnetic Aza-Triangulene Nanostructures*
- B.42 Juan de la Figuera:** *Angle Resolved Reflection Electron Spectroscopy in a Low-Energy Electron Microscope: the path to map the unoccupied states in the Nanoworld*
- B.43 Antonio David Subires Santana:** *Electronic band structure of the Co pnictide A(CoX)₂ (A=Ca, Eu and X=As, P) probed by ARPES*
- B.44 Flavio Bruno:** *A Laser-ARPES View of the 2D Electron Systems at LaAlO₃/SrTiO₃ and Al/SrTiO₃ Interfaces*
- B.45 Mariela Menghini:** *Magneto-transport properties and anomalous Hall effect in ferromagnet/nanostructured superconductor hybrid systems*
- B.46 Rodrigo Guedas García:** *Exploring current limits without damaging nanostrips*
- B.47 Ignacio Casal:** *Characterization of superconductivity in Full-Shell Al/InAs Nanowires*
- B.48 Stefano Trivini:** *Competition of Superconducting and Coulomb Correlations in Pb islands on graphene*
- B.49 Beatriz Rodríguez Fernández:** *Rapid synthesis by Joule heating of low-dimensional transition metal oxide materials*
- B.50 Jon Ortuzar Andres:** *Magnetic molecule as a parity sensor in entangled spin and YSR excitation on a superconductor.*
- B.51 Guillermo Lopez-Polin:** *Energy harvesting from Anomalous Nernst effect on Co/Pt multilayers*
- B.52 Ignacio Figueruelo Campanero:** *Fabrication and characterization of exfoliated high-temperature superconductor Bi₂Sr₂CaCu₂O_{8+δ} flakes for van der Waals heterostructures*
- B.53 Carlos Untiedt:** *Study of the Electrical Capacitance From Classical to the Quantum Regimen*
- B.54 Cristina García Pérez:** *Development of hybrid Superconducting Single-Photon Detectors based on NbTiN and Graphene*
- B.55 Alessio Vegliante:** *Engineering π -Magnetism in Carbon-Based Nanostructures*
- B.56 David Rodriguez:** *Electron paramagnetic resonance spectrometer based on lumped element superconducting resonators*
- B.57 Marina Calero de Ory:** *Bridging spin Qbits to superconducting circuits through carbon nanotubes to superconducting circuits through carbon nanotubes*
- B.58 Alicia Gomez:** *High cooperativity coupling to nuclear spins on a circuit quantum electrodynamics architecture*

- B.59 Ana Pérez Rodríguez:** *Effect of gallium doping on structural and transport properties of topological insulators Bi₂Se₃ by MBE*
- B.60 Elena Díaz García:** *Spin-dependent polaron transport in helical molecules*
- B.61 Victor Rouco:** *Novel engineered architectures and phenomena in all-oxide freestanding interfaces*
- B.62 Jorge Estrada Álvarez:** *Electronic properties of topological rough nanowires for thermoelectrical performance*
- B.63 David García Pons:** *Fabrication of a nanoSQUID for the study of quantum magnonics*
- B.64 Dunkan Martínez Camacho:** *Traces of Majorana zero modes in spin-polarized persistent currents.*
- B.65 Daniel Muñoz-Segovia:** *Structural spillage: an efficient method to screen amorphous topological materials*
- B.66 José María De Teresa:** *Josephson junctions and nanoSQUIDs grown by Focused Ion Beam Induced Deposition (FIBID)*
- B.67 Manuel Pino García:** *On the capacitive coupling of persistent current qubits*
- B.68 Jorge Pérez-Bailón:** *Development of replicable SQUIDs from the control of the fabrication of Nb-based dayem bridge junctions*
- B.69 Santiago Blanco Canosa:** *Suppression of the CDW and SC orders and emergence of short-range magnetic order in 6R-NbSeTe*
- B.70 Pablo Canca López:** *Study of defects under irradiated Fe through ab-initio techniques: cementite – Fe bcc interfaces*
- B.71 Alex Francisco Estupiñán López:** *Simulations of a micro positioner and PCB design for measurement of SQUIDs*
- B.72 Carlos Uriarte González:** *The Interaction of a Levitating Sphere with Helium Superfluids*
- B.73 Ramon Aguado:** *Quantum dot Josephson junction in a hybrid superconductor-semiconductor transmon device: a novel route for Andreev spin qubits*
- B.74 Pedro Alcázar Guerrero:** *Spin Relaxation in corrugated Graphene*
- B.75 Pilar García Estevez:** *The singular manifold method and soliton-like solutions for Nonlinear Schrödinger Equation*
- B.76 Luis Manuel Canonico Armas:** *Hot electron dynamics in graphene – a linear-scaling atomistic approach*
- B.77 Linda A. Zotti:** *Metal-Protein-Metal Junctions: Electron Transport and Mechanical Deformation*
- B.78 Enrique Burzurí:** *Magnetically-diluted two-dimensional CoIRhIII bimetallic oxalates as quantum spin liquid candidates*
- B.79 Celia González Sánchez:** *Towards hybrid van der Waals Josephson junctions based on NbSe₂*
- B.80 Enrique Guzmán:** *Electronic transport experiments and topography images in Tellurium*
- B.81 Marta Fernández-Lomana Gómez-Guillamón:** *Tunneling spectroscopy at very high magnetic fields in the iron based superconductor KFe₂As₂*
- B.82 Pablo García Talavera:** *Superconductivity and band structure of AuSn₄*
- B.83 Miguel Águeda:** *Tunneling spectroscopy through the magnetic phases of Ce(Ru_{0.92}Rh_{0.08})₂Si₂*
- B.84 Beilun Wu:** *Magnetic field induced increased d-electron overlap in Au-Au junctions*
- B.85 Alejandro José Uría:** *Topological phase diagram of amorphous 2d Bi_xSb_{1-x} alloys from its entanglement spectrum*
- B.86 Ángel Ibabe:** *Joule heating effects in superconducting InAs nanowire islands*
- B.87 Verónica Salgueiriño:** *Spin-phonon coupling in antiferromagnetic Cr₂O₃ Nanocrystals*
- B.88 Manuel Antonio García Blázquez:** *A group-theoretic approach to chirality-induced spin selectivity in molecular junctions*
- B.89 Adam Roselló:** *Nanopatterning of hBN/WSe₂/hBN heterostructures for photonic applications*
- B.90 El Hadj Abidi:** *Plasmonic Rectification of terahertz radiation using encapsulated graphene field effect transistor*