

List of publications

Antonio M. García-García

2017:

- **Analytical Spectral Density of the Sachdev-Ye-Kitaev Model at finite N**
A. M. García-García, Jacobus J. M. Verbaarschot, Phys. Rev. D 96, 066012 (2017).
- **Optical signatures of the superconducting Goldstone mode in granular aluminum: experiments and theory**
U. S. Pracht, T. Cea, N. Bachar, G. Deutscher, E. Farber, M. Dressel, M. Scheffler, C. Castellani, A. M. García-García, L. Benfatto, Phys. Rev. B 96, 094514 (2017) Editors' suggestion.
- **Generic dynamical features of quenched interacting quantum systems: survival probability, density imbalance and out-of-time-ordered correlator**
E. J. Torres-Herrera, A. M. García-García, L. F. Santos, arXiv:1704.06272
- **Stability of chaos in a generalised Sachdev-Ye-Kitaev model**
A. M. García-García, B. Loureiro, A. Romero-Bermúdez, M. Tezuka, arXiv:1707.02197

2016:

- **Spectral and thermodynamic properties of the Sachdev-Ye-Kitaev model**
A. M. García-García, Jacobus J. M. Verbaarschot, Phys. Rev. D 94, 126010 (2016)
- **Transport in a gravity dual with a varying gravitational coupling constant**
A. M. García-García, B. Loureiro, A. Romero-Bermúdez, Phys. Rev. D 94, 086007 (2016).
- **Thouless energy and critical statistics on the metallic side of the many-body localization transition**
B. Coe, A. M. García-García, Phys. Rev. B 94, 144201 (2016).
- **Understanding and enhancing superconductivity in FeSe/STO by quantum size effects**
B. Murta, A. M. García-García, Phys. Rev. B 94 184508 (2016).
- **Scattering of universal fermionic clusters in the resonating group method**
P. Naidon, S. Endo, A. M. García-García, J. Phys. B, 49 034002 (2016).
- **Marginal and Irrelevant Disorder in Einstein-Maxwell backgrounds**
A. M. García-García, B. Loureiro, Phys. Rev. D 93, 065025 (2016).
- **Drude weight and Mazur-Suzuki bounds in holography**
A. M. García-García, A. Romero-Bermúdez, Phys. Rev. D 93, 066015 (2016).
- **Universal clusters as building blocks of stable quantum matter**
S. Endo, P. Naidon, A. M. García-García, Phys. Rev. A 93, 053611 (2016).

2015:

- **Universal quantum constraints on the butterfly effect**
D. Berenstein, A. M. García-García, arxiv:1510.08870
- **Conductivity and entanglement entropy of high dimensional holographic Superconductors**
A. Romero-Bermúdez, A. M. García, JHEP 09 (2015) 33.
- **Global critical temperature in inhomogeneous superconductors induced by multifractality**
J. Mayoh, A. M. García-García, Phys. Rev. B 92, 174526 (2015).
- **Defect formation beyond Kibble-Zurek and holography**
P. M. Chesler, A. M. García-García, H. Liu, Phys. Rev. X, 5 021015 (2015).

2014:

- **Number theory, periodic orbits and superconductivity in nano-cubes**
J. Mayoh, A. M. García-García, Phys. Rev. B 90, 014509 (2014).
- **Destruction of Long-range Order by Quenching the Hopping Range in One dimension**
M. Tezuka, A. M. García-García, M. A. Cazalilla, Phys. Rev. A 90, 053618 (2014).
- **Interplay of classical and "quantum" capacitance in a one dimensional array of Josephson junctions**
P. Ribeiro, A. M. García-García, Phys. Rev. B 89, 064513 (2014).
- **Dissipation in a simple model of a topological Josephson junction**
P. Matthews, P. Ribeiro, A. M. García-García, Phys. Rev. Lett. 112, 247001 (2014).
- **Size effects in superconducting thin films coupled to a substrate**
A. Romero-Bermúdez, A. M. García-García, Phys. Rev. B, 89 024510 (2014).
- **Shape resonances and shell effects in thin film multi-band superconductors**
A. Romero-Bermúdez, A. M. García-García, Phys. Rev. B, 89 064508 (2014).
- **Normal modes and time evolution of a holographic superconductor after quench**
X. Gao, A. M. García-García, H. Bi Zeng, H.-Q. Zhang, JHEP 1406 (2014) 019.
- **A thermal quench induces spatial inhomogeneities in a holographic superconductor**
A. M. García-García, H. B. Zeng, H. Q. Zhang, JHEP 1407 (2014) 096.
- **Strong enhancement of bulk superconductivity by engineering granular materials**
J. Mayoh, A. M. García-García, Phys. Rev. B 90, 134513 (2014).

2013:

- **Inhomogeneous pairing and enhancement of superconductivity in large Sn nanograins**
J. Mayoh, A. M. García-García, Proceedings "Quantum in Complex Matter: Superconductivity, Magnetism and Ferroelectricity", Ischia, 2013, arXiv:1309.6255
- **Enhancement of superconductivity by nano-engineering (interview)**
J. Mayoh and A. M. García-García, Supercond. Week 27, 3 (2013).
- **Thermal amplitude fluctuations in arrays of small Josephson junctions**
A. M. García-García, J. Supercond. Nov. Magn. (2013), DOI: 10.1007/s10948-013-2162-z
- **Phase coherence in one-dimensional superconductivity by power-law hopping**
A. M. Lobos, M. Tezuka, A. M. García-García, Phys. Rev. B 88, 134506 (2013).

2012:

- **Holographic Description of Finite Size Effects in Strongly Coupled Superconductors**
A. M. García-García, J. E. Santos, B. Way, Phys. Rev. B 86, 064526 (2012).
- **Combined effect of thermal and quantum fluctuations in superconducting nanostructures: a path integral approach**
P. Ribeiro, A. M. García-García, Phys. Rev. Lett. 108, 097004 (2012).
- **Testing the universality of the many body metal-insulator transition by time evolution of a disordered one-dimensional ultracold fermionic gas**
M. Tezuka, A. M. García-García, Phys. Rev. A 85, 031602 (2012) (Rapid).
- **Quantum Quenches in Disordered Systems: approach to thermal equilibrium without a typical relaxation time**
E. Khatami, A. Relaño, M. Rigol, A. M. García-García, Phys. Rev. E 85, 050102 (2012) (Rapid).

- **Quantifying fluctuations from the tunnelling differential conductance**
A. M. García-García, P. Ribeiro, J. Supercond. Nov. Magn. (2012), DOI 10.1007/s10948-012-1662-6.

2011:

- **Enhancement of the critical temperature in iron-pnictide superconductors by finite size effects**
A. M. García-García, M. A. N. Araujo, P. D. Sacramento, Phys. Rev. B 84,172502 (2011).
- **Experimental observation of thermal fluctuations in single superconducting Pb nanoparticles through tunneling measurements**
I. Brihuega, A. M. García-García, P. Ribeiro, M. M. Ugeda, C. H. Michaelis, S. Bose and K. Kern, Phys. Rev. B 84, 104525 (2011) (Editor Suggestions)
- **BCS superconductivity in metallic nanograins: Finite-size corrections, low energy excitations, and robustness of shell effects**
A. M. García-García, J. D. Urbina, E. Yuzbashyan, K. Richter and B. Altshuler, Phys. Rev. B 83, 014510 (2011).

2010:

- **Observation of shell effects in superconducting nanoparticles of Sn**
S. Bose, A. M. Garcia-Garcia, M. M. Ugeda, J. D. Urbina, C. H. Michaelis, I. Brihuega and K. Kern, *Nature Materials* 9, 550 (2010).
- **Localization in fractal and multifractal media**
A. M. Garcia-Garcia, Emilio Cuevas, Phys. Rev. B 82, 033412 (2010).
- **Stability of the superfluid state in a disordered 1D ultracold fermionic gas**
M. Tezuka, A. M. García-García, Phys. Rev. A 82, 043613 (2010).
- **A holographic approach to phase transitions**
S. Franco, A. M. García-García, D. Rodriguez, Phys. Rev. D 81, 041901 (2010) (Rapid Comm.)
- **A general class of holographic superconductors**
S. Franco, A.M. García-García, D. Rodriguez, JHEP 4 (2010) 092, arXiv:0906.1214.

2009:

- **Absence of localization in one-dimensional disordered systems**
A. M. García-García, E. Cuevas, Phys. Rev. B 79, 073104 (2009).
- **The Anderson transition in a 3d kicked rotor**
J. Wang and A. M. García-García, Phys. Rev. E 79, 036206 (2009).

2008:

- **BCS theory for finite size superconductors**
A. M. García-García, J. D. Urbina, E. Yuzbashyan, K. Richter and B. Altshuler, Phys. Rev. Lett., 100, 187001 (2008).
- **Finite size corrections to the blackbody radiation laws**
A. M. García-García, Phys. Rev. A, 78, 023806 (2008).
- **A semiclassical theory of the Anderson transition**
A. M. García-García, Phys. Rev. Lett., 100, 076404 (2008).
- **Universality in quantum chaos and the one parameter scaling theory**
A. M. García-García, J. Wang, Phys. Rev. Lett., 100, 070603 (2008).
- **Classical and quantum anomalous diffusion in a system of 2d Kicked Quantum Rotors**
A. M. García-García, J. Wang, Int. J. Mod. Phys. B, 22, 5261 (2008).

2007:

- **Dimensional dependence of the metal-insulator transition**
A. M. García-García, E. Cuevas, Phys. Rev. B 75, 174203 (2007).
- **Anderson localization in quantum chaos: scaling and universality**
A.M. García-García, J. Wang, Acta Phys. Pol, 112, 635, (2007). Proceedings 3rd Workshop on Quantum Chaos and Anderson localization, Warsaw, 2007.
- **Chiral phase transition in QCD as a metal insulator transition**
A. M. García-García, J. Osborn, Phys. Rev. D 75, 034503 (2007).
- **Is the chiral phase transition induced by a metal insulator transition?**
A. M. García-García, J. Osborn, Proceedings Infrared QCD, Braz. J. of Phys., 37, 246 (2007).
- **Role of Anderson localization in the QCD chiral phase transition**
A. M. García-García, Proceedings International Conference of Nuclear Physics 2007, Tokyo.

2006:

- **Is it possible to observe experimentally a metal-insulator transition in ultra cold atoms?**
A. M. García-García, J. Wang, Phys. Rev. A 74, 063629 (2006).
- **Anderson transition in systems with chiral symmetry**
A. M. García-García, E. Cuevas, Phys. Rev. B 74, 113101 (2006).
- **A semiclassical description of the autocorrelations in Nuclear Masses**
A. M. García-García, J. G. Hirsch, A. Frank, Phys. Rev. C 74 (2006) 024324.
- **Chiral phase transition and Anderson localization in the Instanton Liquid Model for QCD**
A. M. García-García, J.C. Osborn, Nucl. Phys. A 769, 251 (2006).
- **Power spectrum characterization of the Anderson transition**
A. M. García-García, Phys. Rev. E 73, 026213 (2006).
- **Semi-Poisson statistics in quantum chaos**
A. M. García-García, J. Wang, Phys. Rev. E 73, 03621(2006).
- **Localization in the Instanton Liquid model of QCD**
A. M. García-García, 'International Colloquium on Group Theoretical Methods in Physics', New York, June 2006.

2005:

- **Classical singularities and Semi-Poisson statistics in disordered systems**
A. M. García-García, Phys. Rev. E. 72, 066210 (2005).
- **The Anderson transition in quantum chaos**
A. M. García-García, J. Wang, Phys. Rev. Lett. 94, 244102(2005).
- **Chiral phase transition as an Anderson transition in the Instanton liquid model of QCD**
A. M. García-García, James C. Osborn, PoS LAT2005 (2005) 265.

2004:

- **Long range disorder and Anderson transition in systems with chiral symmetry**
A. M. García-García, K. Takahashi, Nucl. Phys. B, 700 (2004) 361.
- **The QCD vacuum as a disordered medium: A simplified model of the QCD Dirac operator**
A. M. García-García, J. Osborn, Phys. Rev. Lett. 93 132002 (2004).
- **Classical intermittency and quantum Anderson transition**
A. M. García-García, Phys. Rev. E 69 (2004) 066216.
- **Effect of a magnetic flux on the critical behavior of a system with long range hopping**
A. M. García-García, Phys. Rev. B 69 (2004) 245121.

2003-:

- **Critical statistics in quantum chaos and Calogero Sutherland model at finite temperature**
A. M. García-García, J.J.M. Verbaarschot, Phys.Rev. E 67, 046104(2003).
- **Chiral phase transition and Anderson localization in the Instanton liquid model of QCD**
A. M. García-García, Proceedings 'Quantum mechanics and chaos', Kyoto, 2003.
- **Critical statistics for non hermitian matrices**
A. M. García-García , J.J.M. Verbaarschot, S. Nishigaki, Phys. Rev. E 66 016132 (2002).
- **Spectral properties of a generalized chGUE**
A. M. García-García, Phys. Rev. E 64 066121 (2001).
- **Critical statistics for chiral ensembles**
A. M García-García, J.J.M.Verbaarschot, Nucl. Phys. B 586 (2001) 668.