



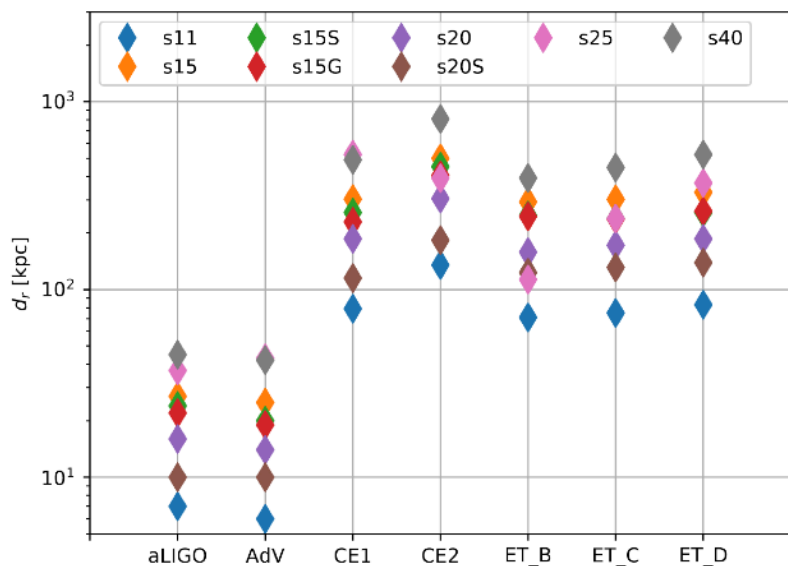
ET-Spain Meeting (Oct 8th 2021) - Valencia Group

José Antonio Font (Universitat de València)



- [UV among 8 Spanish institutions that signed ET ESFRI proposal.](#) [UV+IFIC/CSIC]
- [Valencia Virgo Group](#) (www.uv.es/virgogroup)  
- [Expertise:](#)
 - Numerical-relativity simulations (NS, BNS, BBH, CCSN, ECO)
 - Waveform modelling (ditto)
 - Parameter estimation (CCSN, BBH, ECO)
 - Data analysis (TV methods, ML)
 - Detector Characterization (glitch classification and denoising)
 - EM follow-up
- Group's expertise fits nicely with [ET science goals](#) (Maggiore+ 2020)
- Main interest on ET: [Observational Science divisions](#)
 - D1: Fundamental Physics (Sanchis-Gual and Font invited by chairs)
 - D7: Transient GW Sources (Cerdá-Durán member of board)
 - Also D6 (Nuclear Physics), D8 (Waveforms), and D10 (Data Analysis Platform)
- [Ongoing collaborations](#) (ET Spanish groups, LVK, elsewhere)

Two examples



Bar-mode instability in spinning bosonic stars

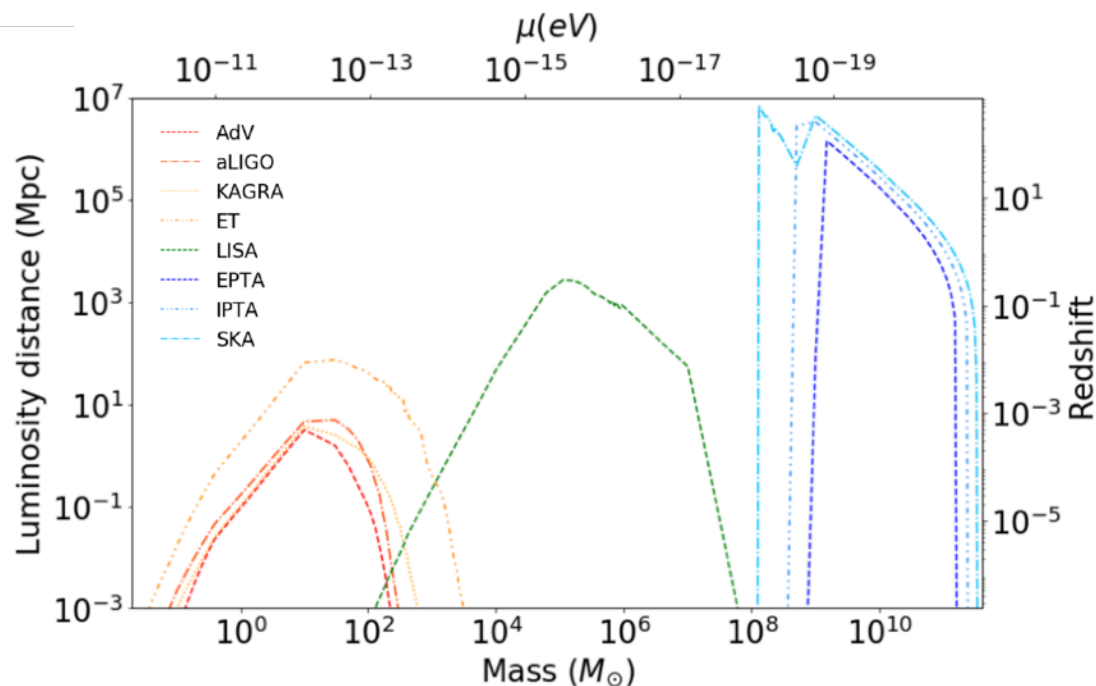
Horizon distance as a function of bosonic particle mass.

Di Giovanni+ (2021)

Inference of CCSN

Maximal distance at which PNS surface gravity (g-mode) can be accurately measured.

Bizouard+ (2021)



Staff and senior researchers



M.A. Aloy M. Obergaulinger N. Sanchis-Gual A. Torres-Forné



J.M. Ibáñez

I. Cordero

J.A. Font

A. Marquina

P. Cerdá-Durán

PhD students



D. Guerra



F. Di Giovanni



M. Miravet



M. Berbel



O. Freitas

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- [UV-QG Group: Theoretical Physics Department & IFIC.](http://www.uv-qg.es) (<http://www.uv-qg.es>)

- **Expertise:**

- Interface between gravity and quantum field theory.
- Modified theories of gravity, cosmology, and compact objects.
- Analog gravity and acoustic black holes.
- Supergravity, group theory and algebraic geometry.



- Main interest on ET: [Observational Science divisions](#)

- D1: Fundamental Physics.
- D2: Cosmology.

- [Ongoing collaborations](#) (ET Spanish groups, LSU, UWM, UFGA, UCT, IIP, CERN)

Staff and senior researchers



Prof. José Navarro Salas



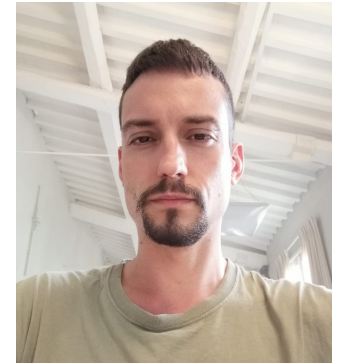
Prof. Alessandro Fabbri



Prof. María A. Lledó



Prof. Gonzalo J. Olmo



Dr. Flavio Bombacigno

PhD students



Adrià Delhom I Latorre



Andreu S. Masó



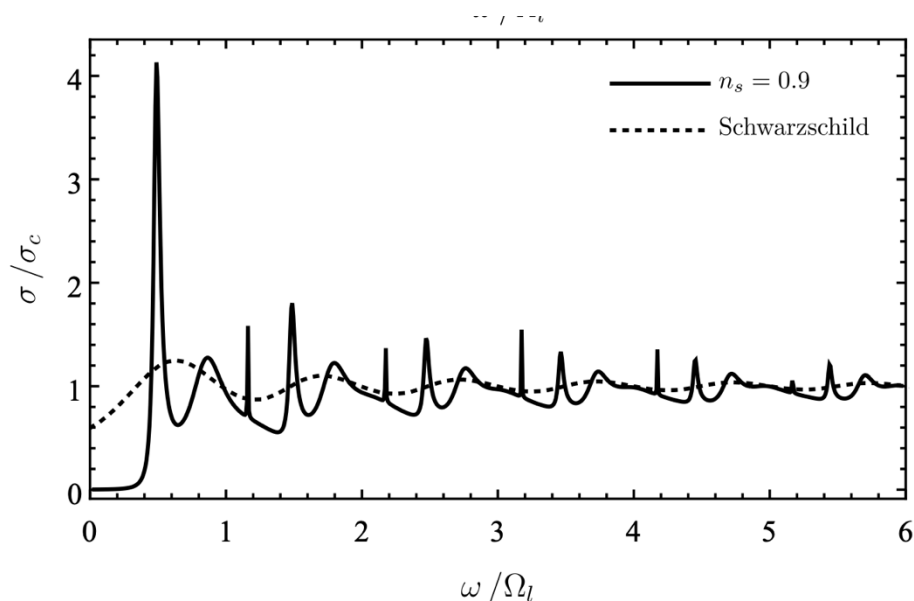
Silvia Pla García



Sergi Nadal Gisbert



Pau Beltrán



Spectroscopy of compact objects

Scalar absorption cross sections of Black Hole remnants exhibit new characteristic peaks.

Delhom, Macedo, Olmo, Crispino + (2019)

PHYSICAL REVIEW LETTERS **124**, 211301 (2020)

Quantum effects in curved spacetime

A.del R o et al.+ (2020)

Spontaneous Creation of Circularly Polarized Photons in Chiral Astrophysical Systems

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