

Surname Name

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Scientific Work

Follow-up of Supernovae:, Photometric and Spectroscopic Evolution, Rates

Supernova and Gamma-ray Burst connection

Galactic and extragalactic Novae

Supernovae-Ia and Gamma-ray Bursts as rulers for cosmological parameters

Kilonovae and short Gamma-ray Bursts

Brief description

My ongoing research concern the study of several classes of transient phenomena such as: Supernovae, Gamma-ray Bursts, Kilonovae and Novae.

Gamma-ray bursts and their Afterglows. My interest in this area started in 2000 when I became member of the SWIFT follow-up team. Most efforts are devoted to the study of the connection between Supernovae and GRBs [2,4,9]

Supernovae. Photometric and the spectroscopic study of all types of SNe (Ia, Ib/c, II-linear, II-plateau) near maximum light and at late stages and their theoretical modeling. The observations at maximum provide us with the necessary data for using SNe (Ia and II) as standard candles. The observations at later stages allow one to discriminate among different energy sources (i.e. radioactive decay, pulsar, light-echo), to model the mechanisms of the explosion, and to shed light on the nature of the progenitor [3,5,7]

Kilonovae. The study of kilonovae associated with short GRBs (e.g. 179817A) has been carried out for individual objects in [1,6,8], while the kilonova rate has been derived in [10].

2019 List of Publication

1. *Search for the optical counterpart of the GW170814 gravitational wave event with the VLT Survey Telescope.*, Grado et al. 2019, MNRAS, tmp.3186G
2. *GRB 171010A/SN 2017htp: a GRB-SN at $z = 0.33$* , Melandri, A. et al. 2019, MNRAS, 490, 5366
3. *The Spectral Evolution of AT 2018dyb and the Presence of Metal Lines in Tidal Disruption Events*, Leloudas, G. et al. 2019, ApJ, 887, 218
4. *Prospects for multi-messenger extended emission from core-collapse supernovae in the Local Universe*, van Putten, M., Levinson, A., Frontera, F., Guidorzi, C., Amati, L., Della Valle, M. 2019, EPJP, 134, 537
5. *Evidence for a Chandrasekhar-mass explosion in the Ca-strong 1991bg-like type Ia supernova 2016hnk*, Galbany, L. et al. 2019, A&A, 630, 76
6. *Multi-messenger Extended Emission from the Compact Remnant in GW170817*, van Putten, M., Della Valle, M., Levinson, A. 2019, ApJ., 876, L2
7. *Signatures of a jet cocoon in early spectra of a supernova associated with a γ -ray burst*, Izzo et al. 2019, Nature, 565, 324
8. *Observational evidence for extended emission to GW170817*, van Putten, M., Della Valle, M. 2019, MNRAS, 482, L46
9. *Unveiling the enigma of ATLAS17aeu*, Melandri et al. 2019, A&A, 621, 81
10. *GW170817: implications for the local kilonova rate and for surveys from ground-based facilities*, Della Valle et al. 2019, MNRAS, 481, 4355

