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Kilonova emission observed so far: a comparison with AT2017gfo

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AT2017gfo is the first kilonova (KN) that could be extensively monitored in time both photometrically and spectroscopically. Moreover, it is the first optical counterpart of a gravitational wave source and it is associated with the short gamma-ray burst GRB 170817A. Here I present our search for the fingerprints of AT2017gfo-like kilonova emissions in the optical/NIR light curves of 39 short GRBs with known redshift. Afterwards, I show how, for the first time, our results allow us to study separately the range of luminosity of the blue and red components of AT2017gfo-like kilonovae in short GRBs. With these results at hand, I show up to which redshift a KN can be followed up by some of the current and future observatories.

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