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Time duration estimators of long GRBs and their classification

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The classification of Gamma-Ray Burst (GRBs) establishes three classes of bursts, longs, intermediates and shorts. In order to prove the existence of the intermediate class of GRBs, we study a sample of long burst detected simultaneously by Suzaku and Swift satellites with known redshift. The combined analysis of Suzaku and Swift satellites provides improved spectral parameters thanks to the broad energy coverage (15-5000 MeV) allowing to determine the break energy of the burst and its isotropic luminosity. Using two time duration estimators, autocorrelation function (ACF) and T90 we investigate if there is a bimodal distribution of long bursts. Comparing burst time duration with hardness and luminosity, we look for possible characteristics between the intermediate and long classes of bursts and its sensitiveness to the redshift.