

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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REMO RUFFINI: Discovery of energy extraction by discrete "Black-Holic" quanta from a Kerr Black Hole in GRB 190114C

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Almost fifty years after the paper "Introducing the Black Hole" by Ruffini and Wheeler and the Black Hole (BH) mass energy formula by Christodoulou Ruffini and Hawking, we can finally assert that we have been observing the moment of creation of a BH in the BdHN I GRB 190114C with corresponding rotational energy extraction process. The predicted properties of the BdHN I have been now observed: both in this source and in GRB 130427A, in GRB 160509A and in GRB 160625B. The first appearance of the Supernova the SN rise triggering the BdHN has been identified and followed all the way to the appearance of the optical SN. The onset of the GeV radiation coinciding with the BH formation has revealed self similar structures in the time resolved spectral analysis of all sources. Consequently, we find evidence for quantized-discrete-emissions in all sources, with energy quanta of 1037 ergs with repetition time of 10-14 sec. GRBs are the most complex systems ever successfully analyzed in physics and astrophysics, and they may well have a role in the appearance of life in the Cosmos. These results have been made possible by a long-lasting theoretical activity, a comprehensive unprecedented high quality data analysis, an observational multi-messenger effort by the astronomical, the physical and the space research communities. This observational effort is well epitomized by the original Vela Satellites, the NASA Compton space mission (CGRO), the Italo-Dutch Beppo SAX satellite, The Russian Konus Wind Satellite, the NASA Niels-Gehrels SWIFT satellite, the Italian AGILE satellite, the NASA FERMI mission and most recently the Chinese satellite HXMT. These space missions have been assisted by radio and optical equally outstanding observational facilities from the ground.

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