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On the self-acceleration of fireshell CARLO BIANCO, REMO RUFFINI, GREGORY VERESHCHAGIN, SHE-SHENG XUE, ICRANet and Univesity of Rome "Sapienza" — The Fireshell in a Gamma-Ray Burst (GRB) has the most unique feature in the entire field of physics of self-accelerating from a Lorentz gamma factor equal to 1 all the way to 200-300. The hysics of this most extraordinary system is based on the continuous annihilation of electron-positron pairs in an optically thick e^+e^- plasma. The physical reasons for this self-acceleration reanalyzed and the fireshell dynamics is compared with the "fireball" solution usually adopted in GRB literature.

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