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The GRB plateau emission naturally explained within the classical “fireball” model

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The origin of the plateau phase seen in the early X-ray light curves of GRBs (up to thousands of seconds) is a debated topic. I will present a new model formulation as explanation of the plateau emission and its application to the observation in both X-ray and optical bands. Main outcomes of this application is that (i) the end of the plateau phase marks the transition from the coasting phase to the self-similar expansion phase, (ii) the initial Lorentz factor of the relativistically expanding jet is of the order of a few tens and (iii) the expansion occurs into a low-density wind.

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