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A PlasmPhysicist View at Gamma-Ray Burst Shocks¹

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Gamma-Ray Bursts (GRBs) are the most violent and energetic phenomena in the Universe. The generally accepted model of GRBs assumes that the observed radiation is produced in highly relativistic collisionless shocks (internal and external). Yet it does not explain *why* and *how* this radiation is produced, as well as it provides no clue on the structure of the shock itself. In the talk I will give some background and will discuss recent developments in the self-consistent theory of GRB shocks in an unmagnetized medium. I'll demonstrate that the theory naturally explains some GRB puzzling features.

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