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Type: **Oral presentation**

X-ray plateaus in GRB light-curves from jets viewed slightly off axis

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The X-ray light-curves of gamma-ray burst afterglows commonly feature phases of shallowly decaying or constant flux lasting from hundreds of seconds to a day, known as plateaus. Correlations exist between observable properties of the plateau and of the prompt emission for bursts with plateaus. Over the years, the origin of these plateaus has been tentatively traced to various mechanisms. These models may reproduce observed correlations, but their physical motivation remains elusive, in particular for those which require variable activity from the central engine. We show that X-ray plateaus can occur due to purely geometrical effects and that the observed correlations naturally arise from these, provided the burst's jet is laterally structured and viewed with an angle close to its core. We illustrate our work by comparing simulated to observed X-ray light-curves, and study other consequences of our interpretation of these plateaus.

Field

Compact objects (supernovae, black holes, neutron stars)

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