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Abstract for an Invited Paper for the APR05 Meeting of the American Physical Society

The Physics of Gamma-Ray Bursts

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There is now general agreement that gamma-ray bursts involve extraordinary power outputs, posing a severe theoretical challenge and - irrespective of which detailed model proves correct - involving some fascinating and extreme physical processes. I shall focus on some of the key issues relating the modeling of the trigger and the formation of the ultra relativistic outflow which has been proven to be a formidable challenge to computational techniques.