

Abstract Submitted  
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**Precursor Events Involving Plasma Structures Around Collapsing Black Hole Binaries**<sup>1</sup> BRUNO COPPI, MIT, MIKHAIL V. MEDVEDEV, KU, MIT — The plasma structures that can exist around black hole binaries can sustain intrinsic plasma collective modes [1] that have characteristic low frequencies related to the particle rotation frequencies around the binary system. As the collapse approaches, with the loss of angular momentum by emission of gravitational waves [2] from the binary system we have suggested [3] that the frequency of the fluctuating component of the gravitational potential can go through that of the intrinsic modes of the surrounding plasma structure and lead to a sharp amplification of them. Then the precursor to the event reported in Ref. [2], tentatively identified by the Agile X- $\gamma$ -ray observatory [4] may be associated with the high energy radiation emission due to the fields produced by excitation of the proposed plasma modes. M. Tavani is thanked for bringing Ref. [4] to our attention while Ref. [3] was being completed.

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