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Observational signatures of cosmic string wake from magnetohydrodynamics

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Cosmic strings generate wakes as they move through the universe. The wake leaves a distinct imprint on the background plasma. Magnetic fields are also generated in the wake of a cosmic string due to the inhomogeneity of the electron distribution and due to the presence of shocks in the wake. The presence of the magnetic field and the high Reynolds number in the wake of the cosmic string lead to various interesting consequences in the string wake. One such consequence is the possibility of magnetic reconnection in the cosmic string wake. Currently, there is a strong initiative to identify the signatures left behind by the cosmic string wake. We propose that magnetic reconnections in cosmic string wake may lead to a large radiation burst which can be identified as a Gamma Ray Burst.

Session

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