

Abstract Submitted
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—Fermi-type particle acceleration from magnetic reconnection at the termination shock of relativistic striped wind¹ YINGCHAO LU, Los Alamos National Laboratory and Rice University, FAN GUO, HUI LI, Los Alamos National Laboratory, EDISON LIANG, Rice University — The termination shock of relativistic striped wind of obliquely rotating pulsars compresses the Poynting-flux-dominated flow and drives magnetic reconnection. Magnetic reconnection at the termination shock is highly efficient at converting magnetic energy into thermal energy and accelerating particles to high energies. By carrying out particle-in-cell simulations, we find that fermi-type mechanisms dominate the particle acceleration and power law formation. The maximum energy for electrons and positrons can reach hundreds of TeV if the wind has a Lorentz factor approximately 10^6 .

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