

Particle simulation of collisionless shocks with a shock-rest-frame model. I

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Full kinetic dynamics of one-dimensional perpendicular shock in a collisionless plasma is studied by means of an electromagnetic full particle simulation. The present simulation domain is taken in the shock rest frame in contrast to all the previous full particle simulations of collisionless shocks. Preliminary results show that the downstream state falls into a unique quasi-steady state for a given set of upstream parameters through the self-consistent kinetic processes.