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Analysis of a curved shock front microstructures and associated electron/ion foreshock for a subcritical shock regime

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Previous numerical works on electron/ion foreshocks observed upstream of a curved shock have been already performed within a self-consistent approach based on *2D* PIC simulation (Savoini et Lembege, 2010, 2013, 2015), but are restricted to a supercritical regime only. Present two dimensional PIC (Particle in cell) simulations are used in order to analyze the features of a curved shock and associated foreshocks in a subcritical regime. In order to investigate the dynamic of each electron and ion backstreaming populations, we used test-particles in a pre-computed electromagnetic field (issued from *2D* PIC simulations) which allows us to define precisely the characteristic of each population in terms of initial velocity and/or their upstream position to the θ_{Bn} angle (angle between the local shock normal and the interplanetary magnetic field IMF). Then, results allow to clarify the following questions: what is the impact of the subcritical regime (i) on the persistence of each electron/ion foreshock respectively ?, (ii) in the case the persistence is confirmed, how the location (along the curved front) and the angular direction of each foreshock edge are affected ?, and (iii) how the mapping of upstream local distribution functions are impacted ? Preliminary results will be presented and compared with those already obtained for a supercritical shock.