

## Simulation of the Nonlinear Wave Particle Interaction for Motions of the Picked-up Ions in the Comet-Coma Regions.

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Nonlinear evolution of electromagnetic waves has been studied by one-dimensional hybrid code computer simulations. In the early period of the simulation run, linear plasma waves whose wavelength is  $4 R_i$  are excited;  $R_i$  is 15500km, in this case, given as the Larmor radius of oxygen ions of cometary origin. The processes grow further into the nonlinear stage where large scale nonlinear waves whose wavelength is  $40 R_i$  are excited. Cometary ion motion directed in parallel to the magnetic field line has been found to be effectively broken being deeply influenced by these growing nonlinear waves.