Computer Space Plasma Physics: Simulation Techniques and Software

Cover: Earth's magnetosphere reproduced by TRISTAN, particle code.

The picture shows ions in the thin (thickness one cell) slice which contains Earth's magnetic axis. Solar wind enters (cold) at the left, with no embedded field, normal to the magnetic axis, and progresses 1/4 cell per time step. In the code, "Earth" is only a current loop at its center. The electron distribution is similar to the ion distribution, giving approximate neutrality. (The mass ratio 16:1 is used.) The strength of Earth's magnetic dipole (or internal current loop) was held at a value giving pressure balance between solar wind and magnetic field approximately midway between Earth and the entrance plane. The downstream particle distributions and magnetic fields are not yet steady. Various current sheets appear, the closest behind Earth being aligned in the equatorial plane.

(provided by Oscar Buneman)

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