Therefore no ions with incident energy smaller than the spacecraft potential will arrive at the ion detector. Also the energy at the detector can be quite different than the energy at free space due to spacecraft charging especially for low energy particles.

Fig. 14 shows the electron trajectories from the electron detector for 9 different initial directions and two different initial energies (0.5 and 25 keV). All trajectories follow magnetic field lines. The 0.5 keV electrons have a small cyclotron radius and 25 keV electrons have a large radius. Due to this large cyclotron radius, many 25 keV electrons hit spacecraft, which means that the detector field of view will be reduced for electrons with cyclotron radius comparable to the spacecraft size.

IV. Summary and Conclusions

The surface charging of the Juno spacecraft under Jovian Aurora environment was successfully simulated. Due to the **v**x**B** effect, about -1200 V potential difference was developed along the solar panels. The space potential was evaluated at few rotation phases and the trajectories of low energy ions and electrons from ion detector and electron detector were calculated at selected phases. Such simulations will be useful for the Juno Science Team in interpreting the data obtained by the particle detectors.

Acknowledgment

The research was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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