



Effects of a Weak Planetary Field on a Model Venus Ionosphere

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There are a number of attributes of the near-Venus space environment and upper atmosphere that remain mysterious, including occasional large polar magnetic field structures seen on VEX and nightside ionospheric holes seen on PVO. We have been exploring the consequences of a weak global dipole magnetic field of Venus using results of BATS-R-US MHD simulations. An advantage of these models is that they include the effects on a realistic ionosphere. We compare some of the weak magnetosphere's ionospheric properties with the typical unmagnetized ionosphere case. The results show the differences can be quite subtle for dipole fields less than ~ 10 nT at the equator, as might be expected. Nevertheless the dipole fields do produce distinctive details, especially in the upper regions.