

Abstract Submitted
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The impact on a physics-based model of the Earth's polar ionosphere resulting from uncertainties in the alignment of two empirical models DAVID HANSEN, Utah State University - Space Weather Center, ROBERT SCHUNK, JAN SOJKA, LIE ZHU, Utah State University - Center for Atmospheric and Space Sciences — This presentation discusses the difficulties associated with the simultaneous use of two specific empirical models when modeling the Earth's polar ionosphere. In this study, the two empirical models were used to provide input that is required by a physics-based model of the Earth's polar ionosphere. However, there is uncertainty in how to align the two empirical models over the polar cap in a manner that adequately represents what is observed in nature. In this study it is shown that the uncertainty of aligning the two empirical models has a large impact on the physics-based model of the Earth's polar ionosphere. This study quantifies this impact and demonstrates the inadequacy of this procedure for forecasting applications.

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