

Chronicle of a quest: Search for E-region vertical plasma transport

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In 1984 Huuskonen et al.^{*)} published a paper in which the authors investigated in terms of a simple ionospheric model the effect of electric field-induced vertical convection on the precipitation E-layer. Using a large EISCAT CP-1 data base we have tried to approve or disapprove the existence of a measurable effect of the given type. In spite of considerable efforts we have not yet reached a definite answer. In this chronicle we will go through the various arguments and procedures in our attempt to verify an E-field induced vertical plasma transport effect.

^{*)}Huuskonen, A., T. Nygrén, and L. Jalonon, The effect of electric field-induced vertical convection on the precipitation E-layer, JATP 46, 927-935, 1984.