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Investigating the mid-latitudes extent of the ExB drift phenomenon

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The study investigates the mid-latitude extent of the vertical ExB drift velocities and provides the feasibility of studying this phenomenon using the data from the MAGDAS at Lusaka, Zambia. Over the years our understanding of the vertical ExB drift velocities has improved with better understanding of their dynamics in the equatorial regions where the theory shows that these drift velocities are most prevalent and have the most effect, but more work remains, notably with regard to their extent toward the midlatitude regions. The study provides a comprehensive overview of the mid-latitude vertical ExB drift and suggests approaches to investigating this phenomenon in the mid-latitude sector.

Keywords: midlatitude ionosphere, ExB drift, MAGDAS