

# Modelling Electric Influences on the Neutral Atmosphere

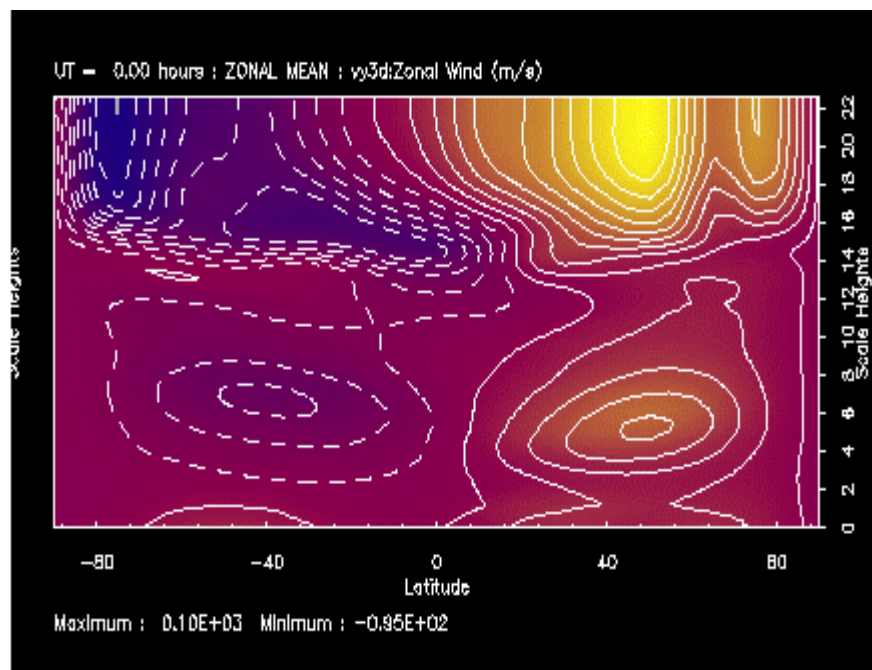
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Interest in sprite research has highlighted a major deficiency in existing global circulation models – namely a presumption that only neutral particle physics and chemistry are important in determining weather and climate. Whilst this paradigm is not used in the thermospheric modelling community, there have only recently been studies that have indicated that changes in the thermosphere can significantly affect the atmosphere below. The second generation Coupled Middle Atmosphere Thermosphere model (CMAT 2), being developed by University College London and the University of Leicester, will provide a powerful tool for placing sprites and other middle atmosphere plasma phenomena into a self-consistent global atmospheric context. Some early results will be presented.



Zonal mean zonal winds between 15 – 300 km generated by the CMAT 2 model.