Geophysical Research Abstracts, Vol. 9, 07595, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-07595


# Tropical SST role on the anomalous 2002 polar vortex conditions

B. Grassi, G. Redaelli and G. Visconti
Department of Physics/CETEMPS, University of L'Aquila, Coppito-L'Aquila, ITALY

The stratospheric winter of 2002 in the Southern Hemisphere (SH) was particularly unusual. Characterized by a weaker than normal vortex during all the season, it registered, during the end of September, the first Stratospheric Sudden Warming yet observed in the SH. This type of event is unexpected because the forcing of upward propagating tropospheric waves is usually weak in the SH. The "preconditioning" of the polar vortex, starting at the beginning of the winter, has been supposed to be crucial. Recent model studies have suggested that the winter polar vortex may be sensitive to the tropical oceanic conditions. In this paper, the response of the polar SH to the 2002 tropical Sea Surface Temperature (SST) is simulated. Model results show a primary role played by tropical SST on the development of the peculiar 2002 Antarctic polar atmospheric dynamics.