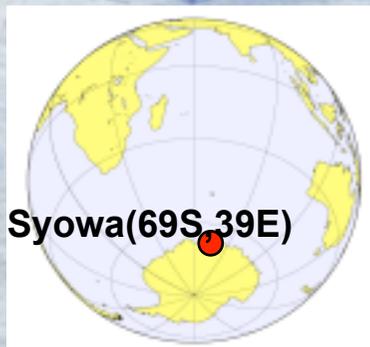


Program of the Antarctic Syowa MST/IS Radar (PANSY)

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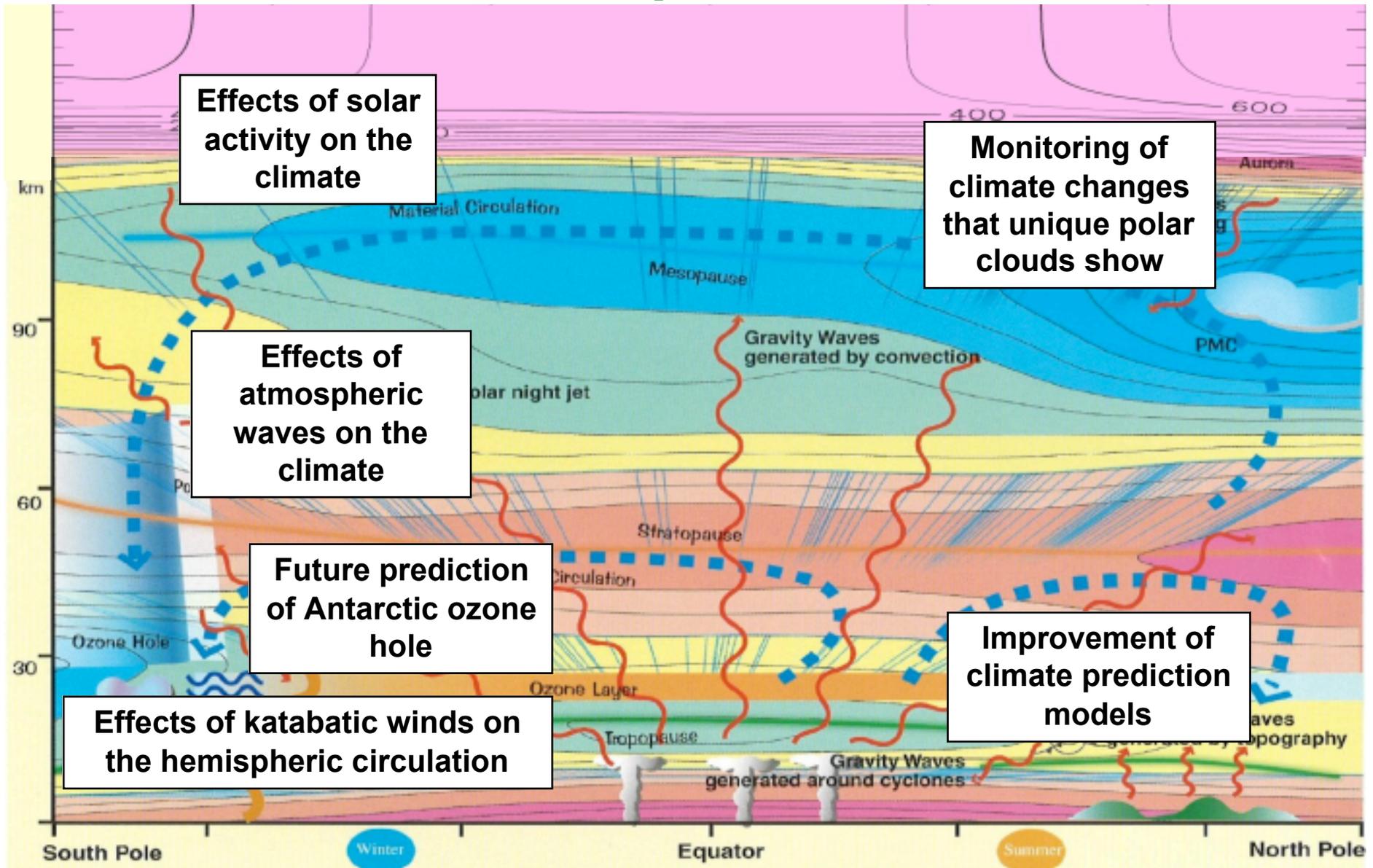
- First Mesosphere, Stratosphere and Troposphere / Incoherent Scatter radar in the Antarctic
- Height coverage : 1 ~ 500km
- Three dimensional winds and plasma parameters
- Fine time and height resolutions

System	Pulse Doppler radar. Active phased array system
Center freq.	47MHz
Array Antenna	About 1000 crossed Yagi antennas. Diameter about 160m
Transmitter	About 1000 solid-state TR modules Peak Power : 500kW
Receiver	About 50 channel digital receiving system



PANSY is derived from the French word, 'pensee', meaning 'thought'

Research Topics of PANSY



The lack of observations in polar regions hinders quantitative understanding of the whole atmosphere



Feasibility Study

-Field Survey (2002~)



-Development of power efficient
class-E transmitters (2003~)

Twice as power-efficient as conventional
class-AB transmitters.

Estimated total power consumption ~75kW

-Optimization of Yagi antennas (2003~)

Light-weight. Easy to set up and robust



-Comprehensive test during IPY-4

Pilot radar system using the developed transmitters and antennas

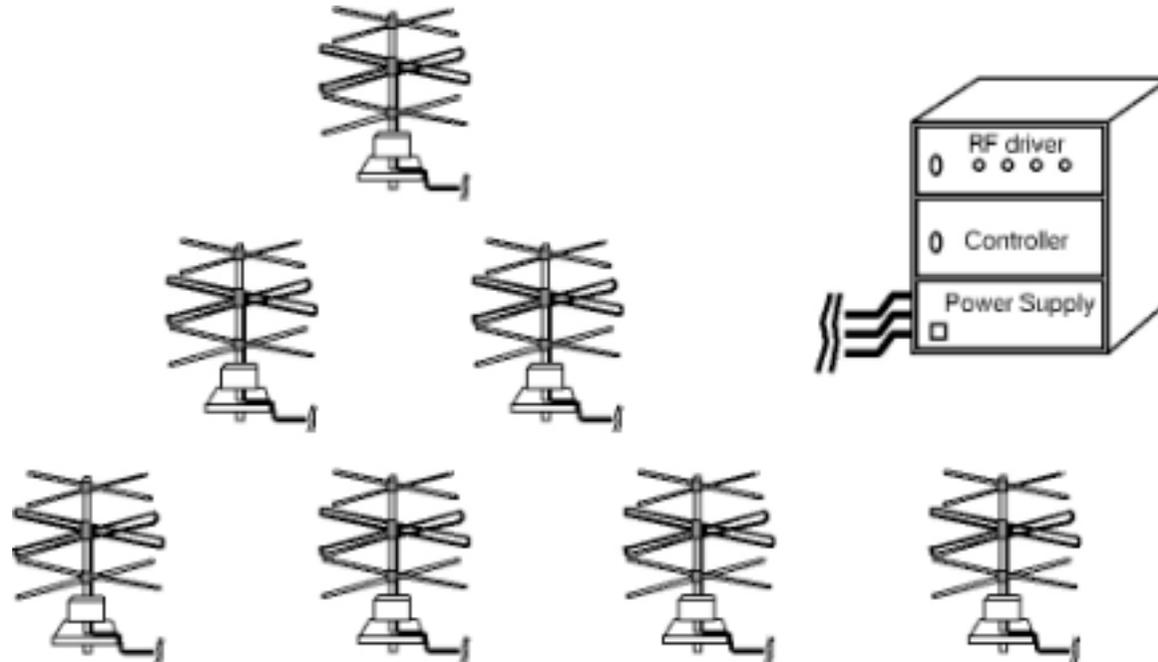


Pilot System

(to be installed in January 2009)

Comprehensive test radar system

- Light-weight and robust antennas
- Power-efficient class-E amplifiers



Scientific study of polar mesopause region as a meteor wind radar