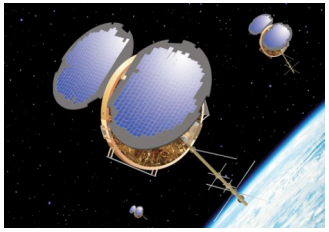
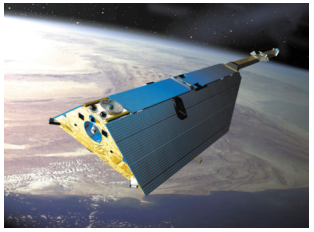
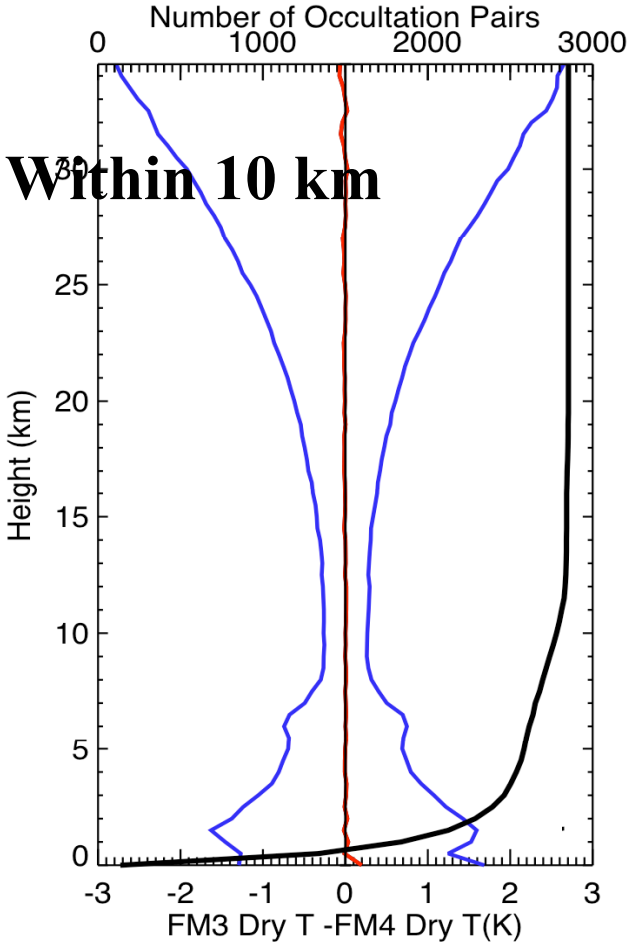
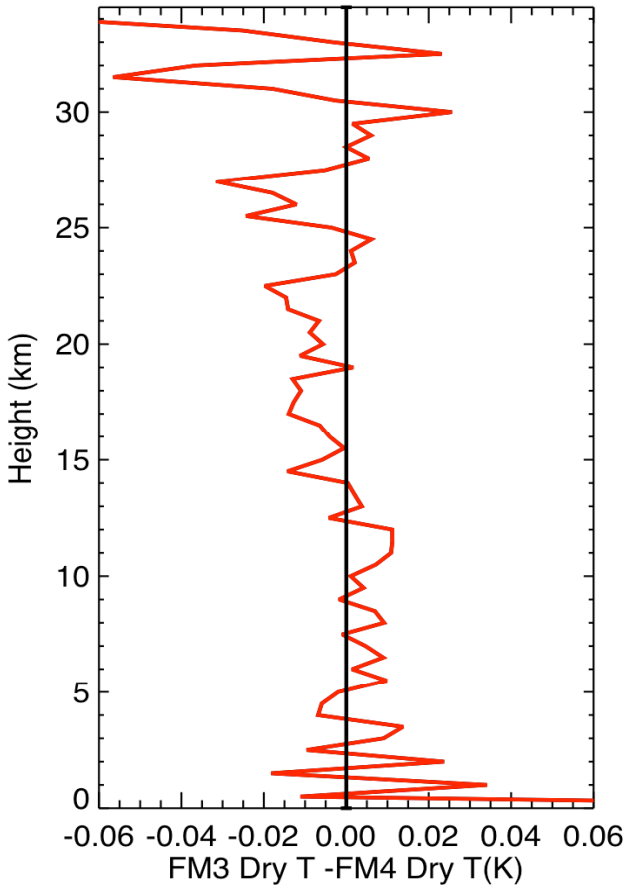


Difficulty II: to find observations with very high precision







$$N = 77.6\frac{P}{T} + 3.73\times10^{5}\frac{P_W}{T^2}$$

With 0.02-0.05 K of precision at all vertical levels, COSMIC data will be very useful to inter-calibrate measurements from other satellites

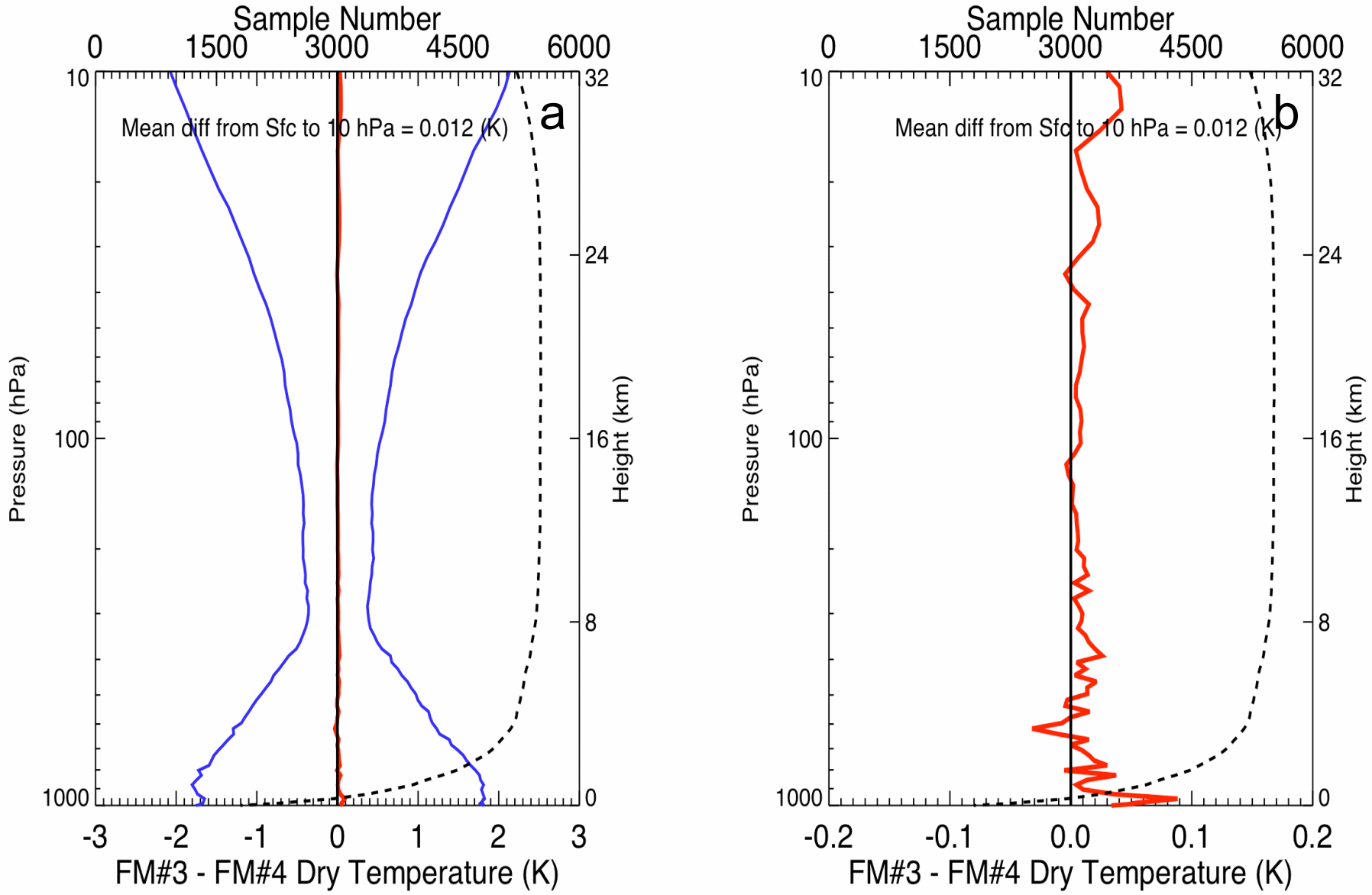
(Ho et al. TAO, 2007)

Dry temperature difference between FM3-FM4 receivers

Shu-peng Ben Ho, UCAR/COSMIC

Fig.1

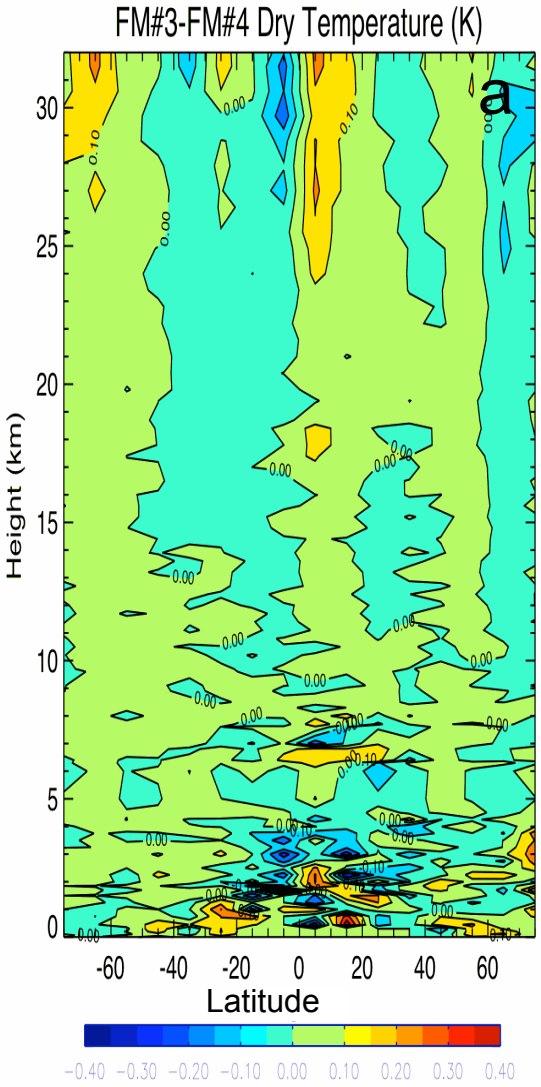
Global mean FM#3-FM#4 dry temperature difference (K)



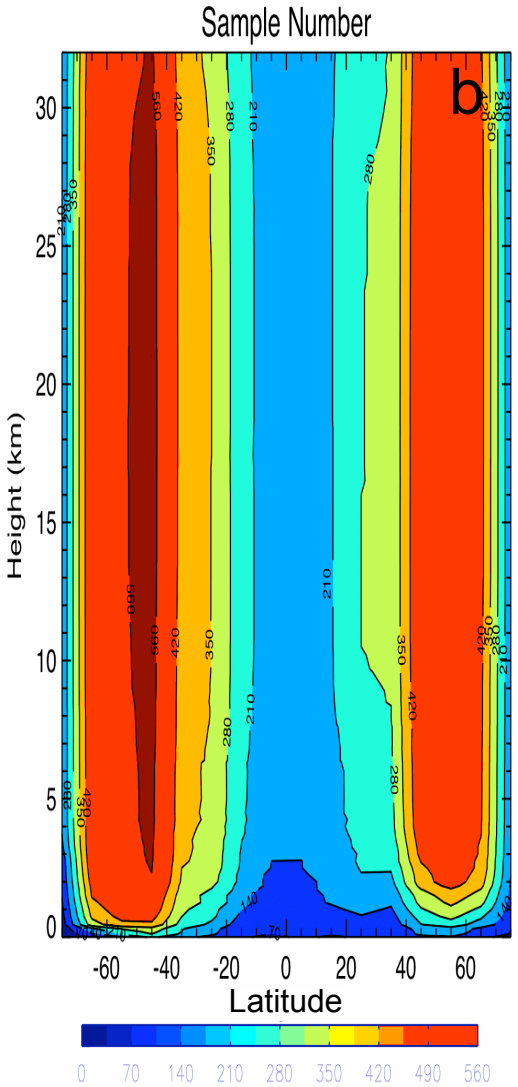
90N-90S FM#3 and FM#4 within 25 km and 10 mins

Fig.2

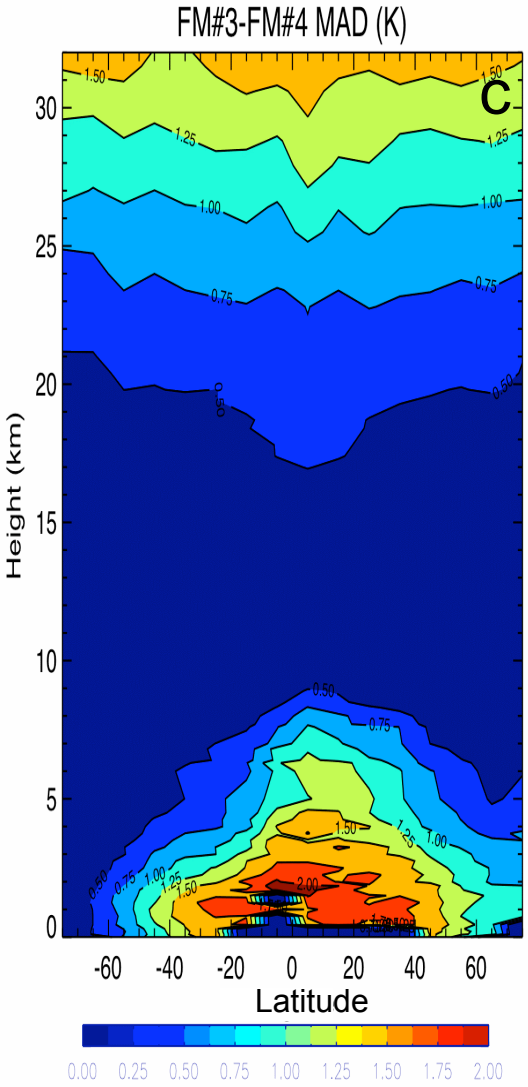
Global mean FM#3-FM#4 dry temperature difference (K)



Dry Temperature Difference (K)



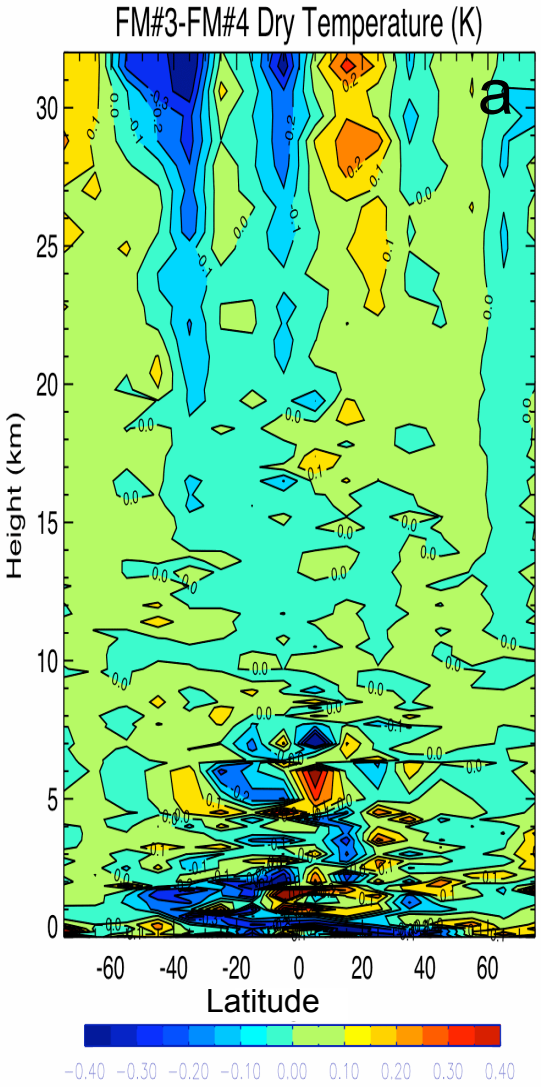
Sample Numbers



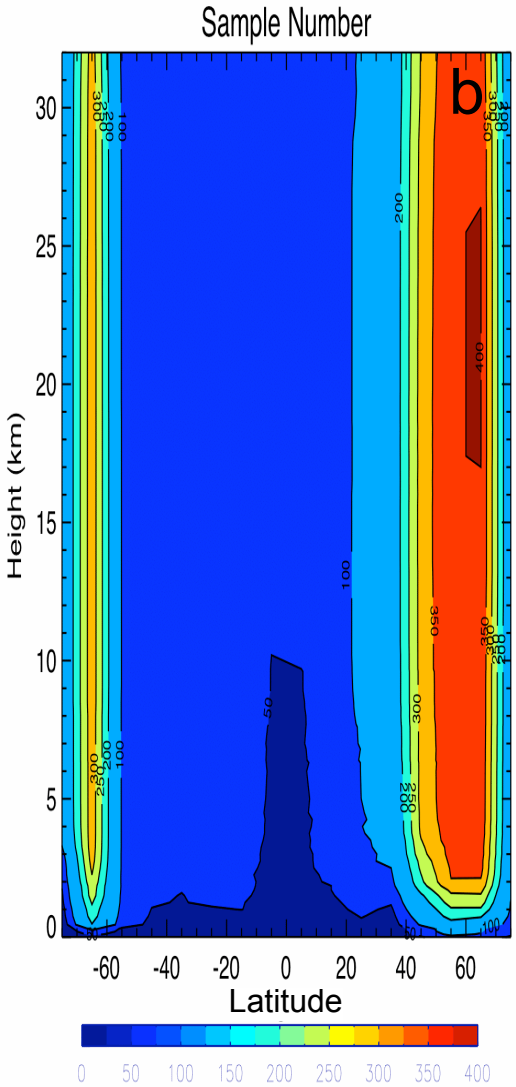
Median Absolute Deviation (K)

Fig.3

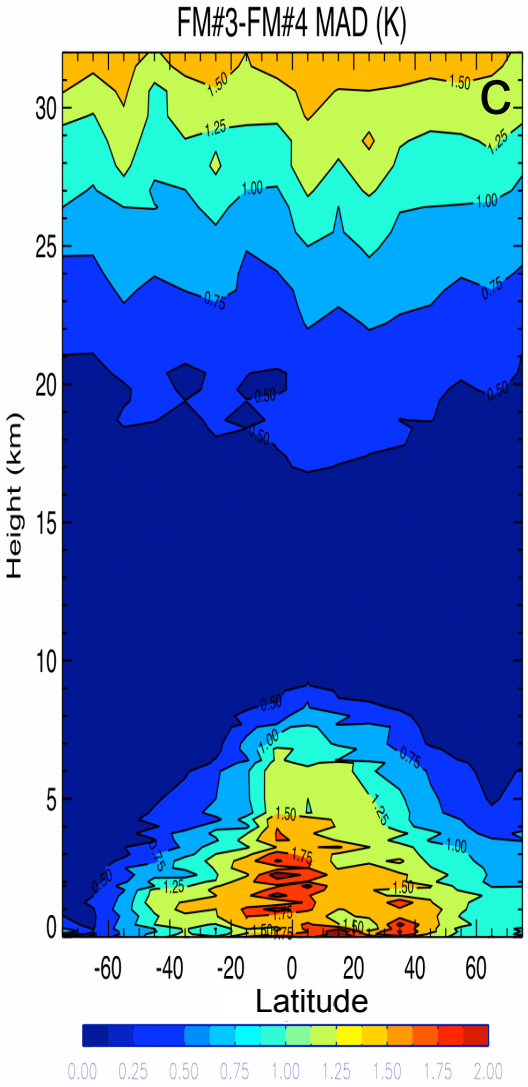
Mean FM#3-FM#4 dry temperature difference over lands (K)



Dry Temperature Difference (K)



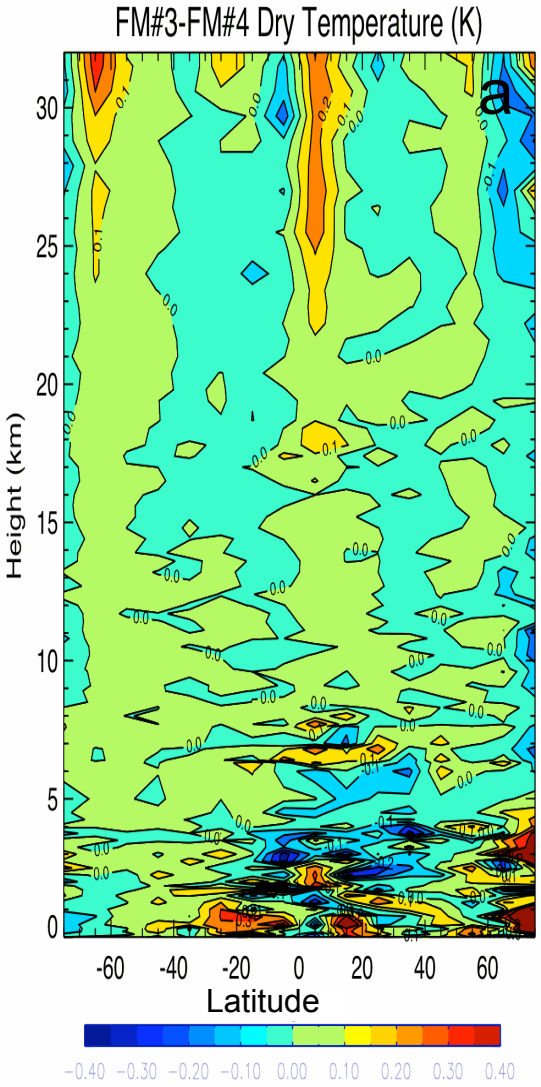
Sample Numbers



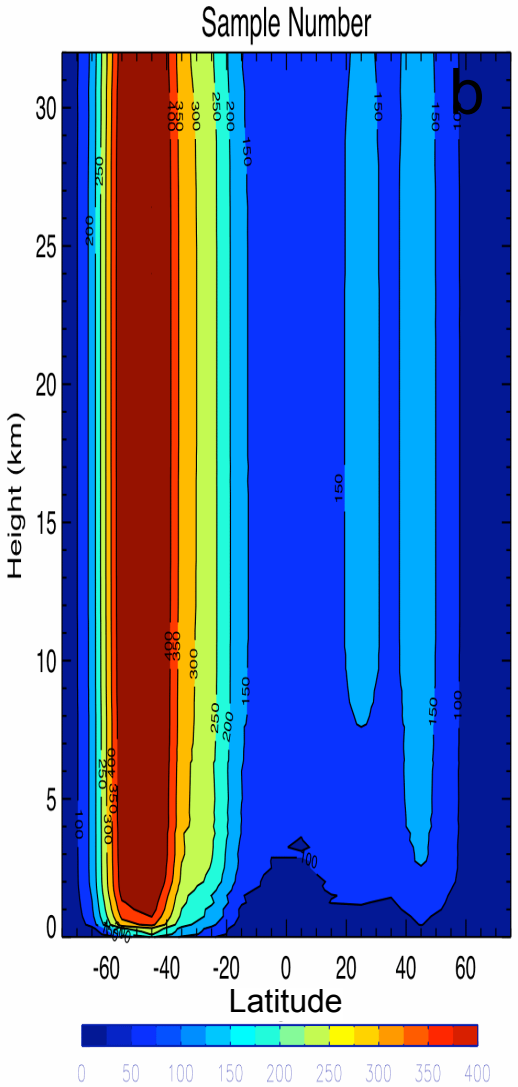
Median Absolute Deviation (K)

Fig.4

Mean FM#3-FM#4 temperature difference over oceans (K)



Dry Temperature Difference (K)



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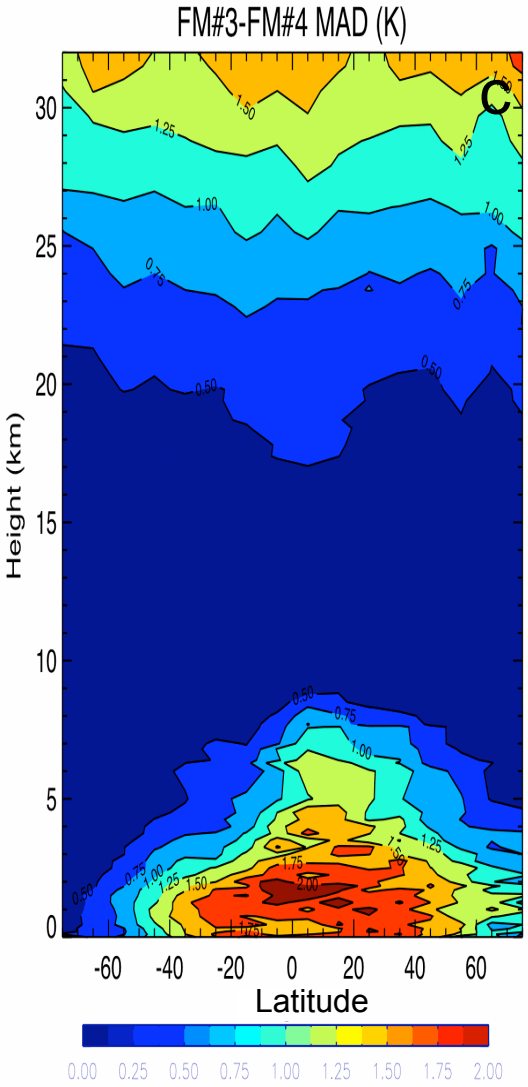
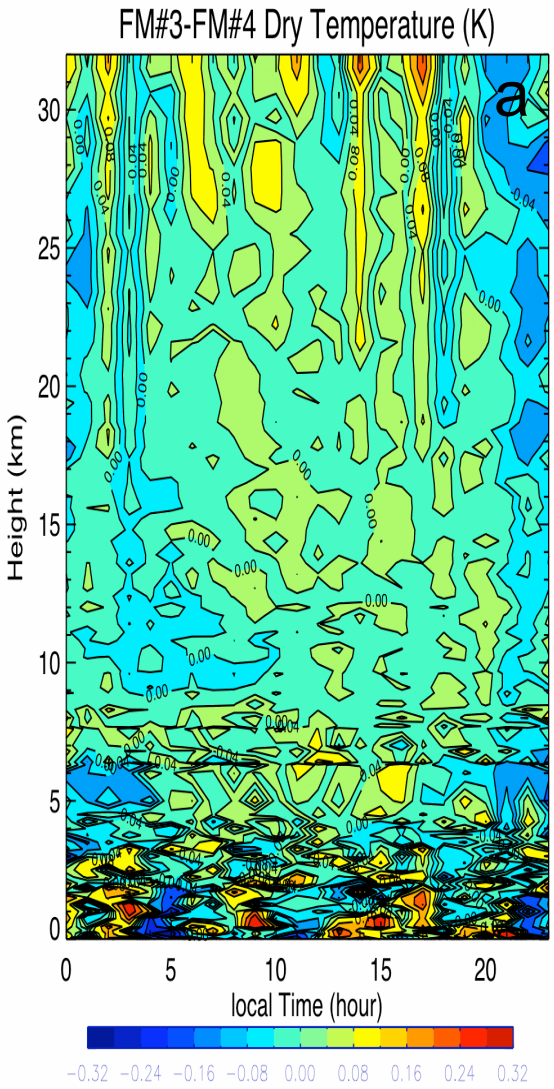


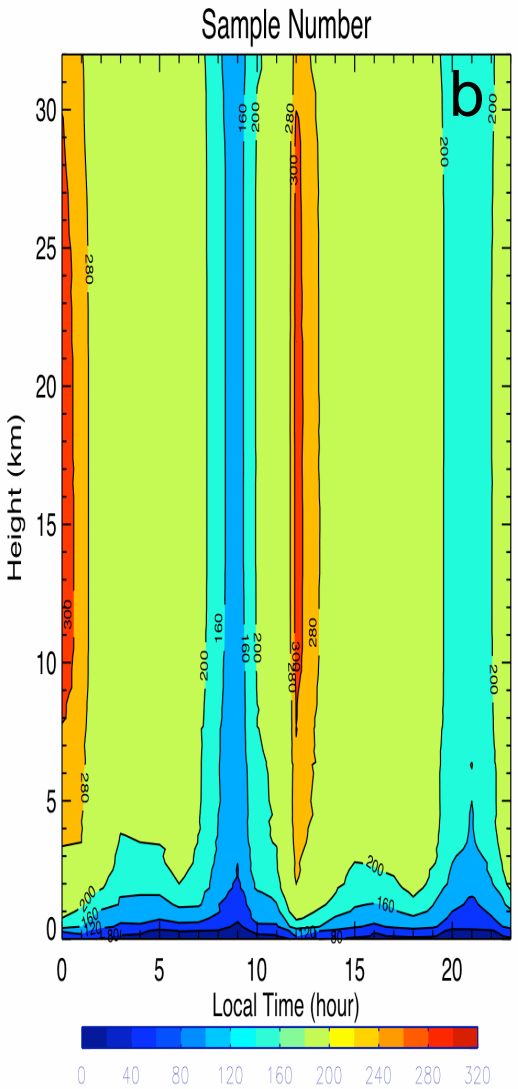
Median Absolute Deviation (K)

Fig.5

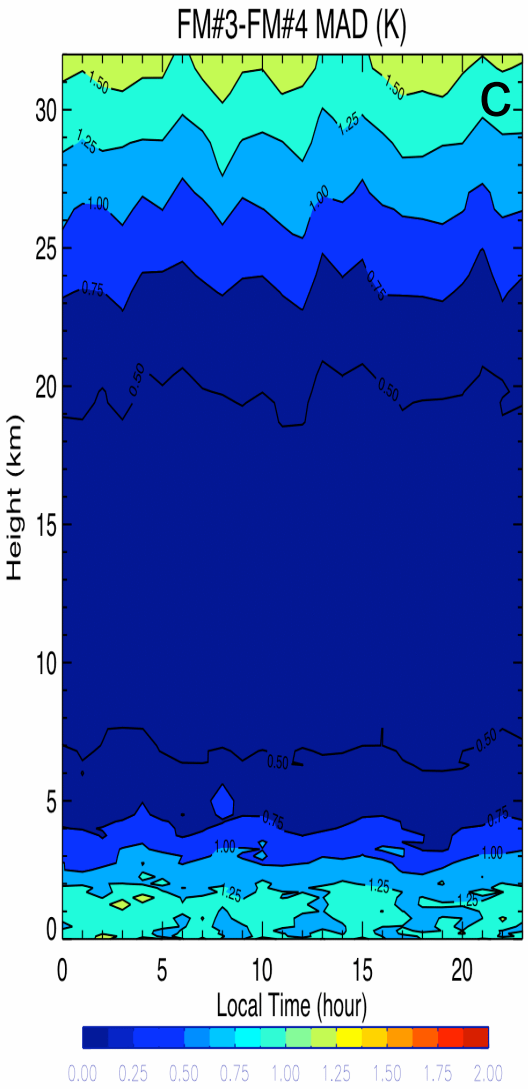
Mean FM#3-FM#4 temperature difference at all local times (K)



Dry Temperature Difference (K)



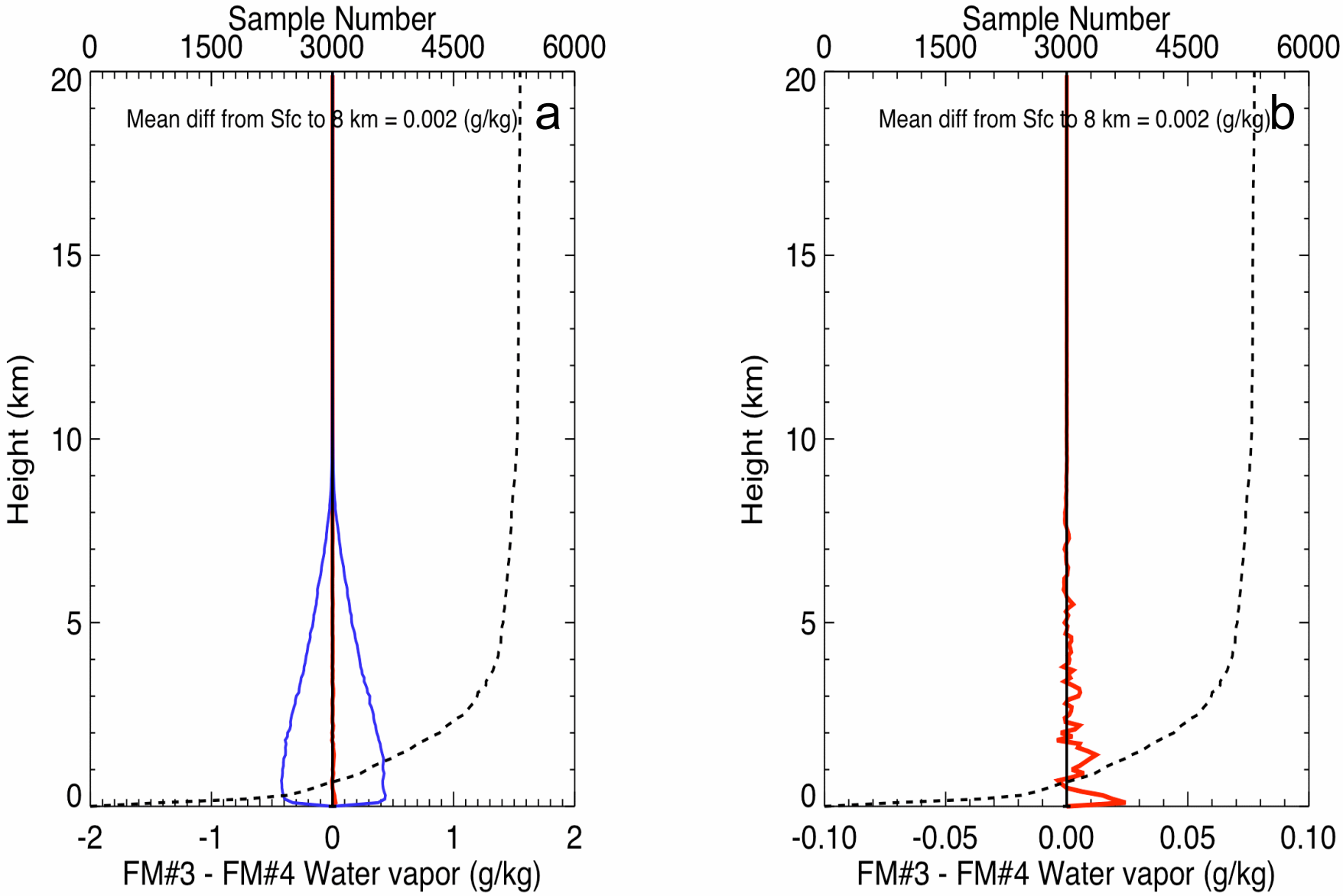
Sample Numbers



Median Absolute Deviation (K)

Fig.6

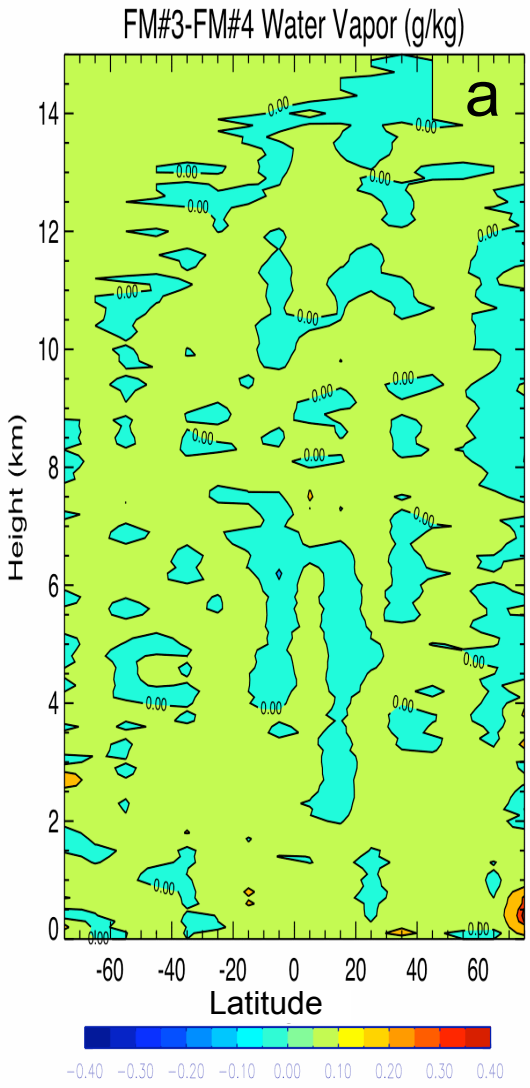
Global mean FM#3-FM#4 Water Vapor difference (g/kg)



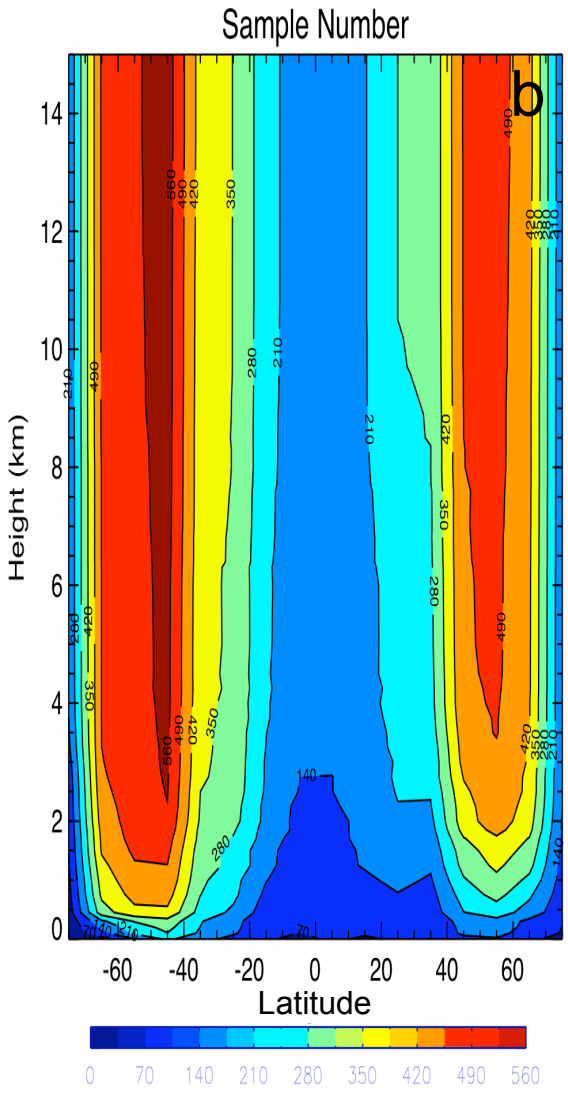
90N-90S FM#3 and FM#4 within 25 km and 10 mins

Fig.7

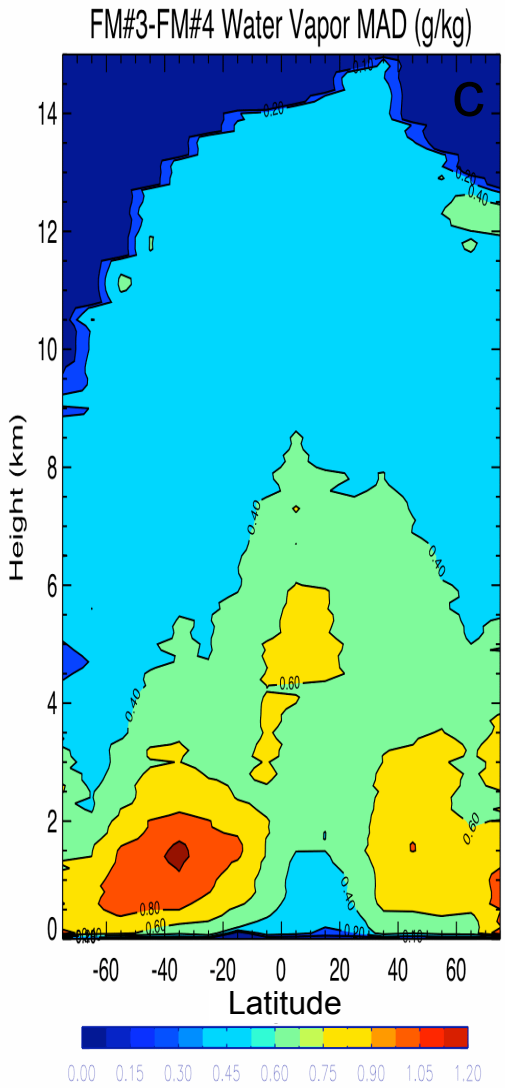
Global mean FM#3-FM#4 Water Vapor difference (g/kg)



Water vapor Difference (g/kg)



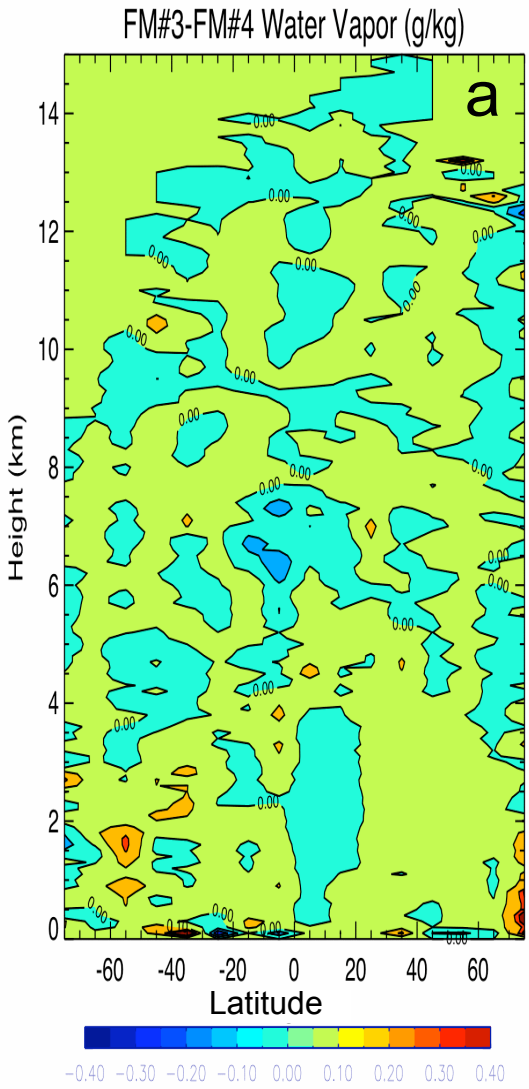
Sample Numbers



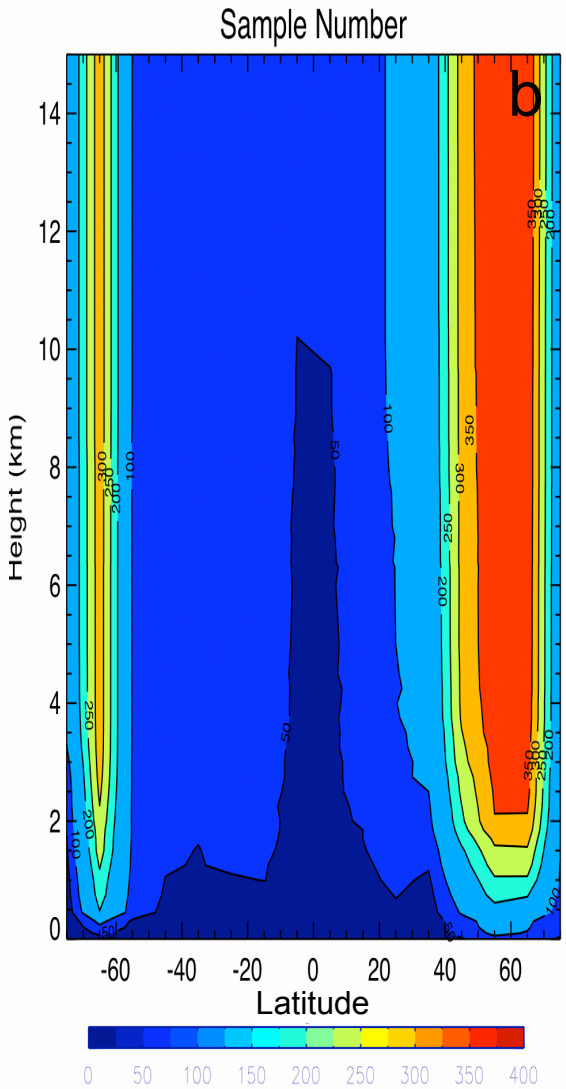
Median Absolute Deviation (g/kg)

Fig.8

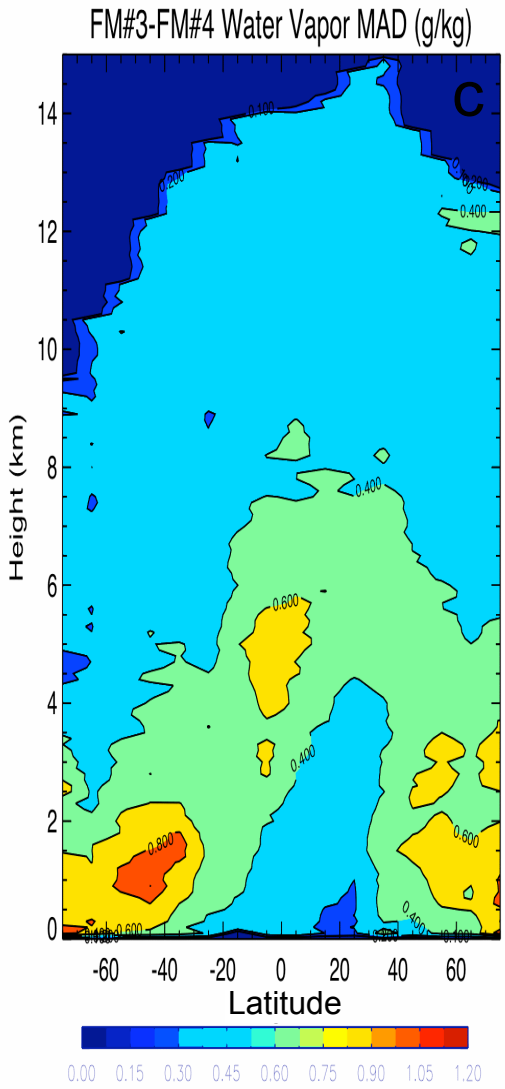
Mean FM#3-FM#4 Water Vapor difference (g/kg) over lands



Water vapor Difference (g/kg)



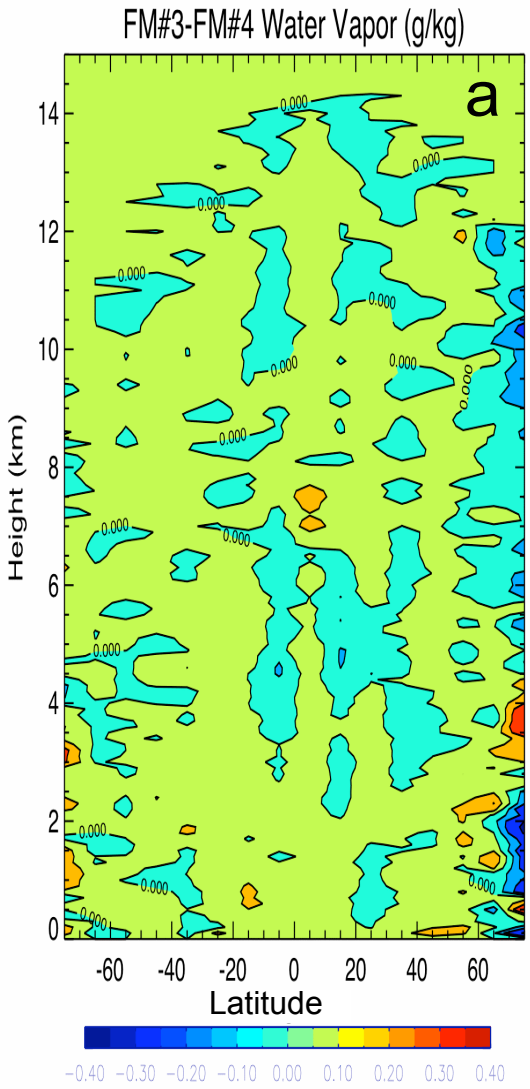
Sample Numbers



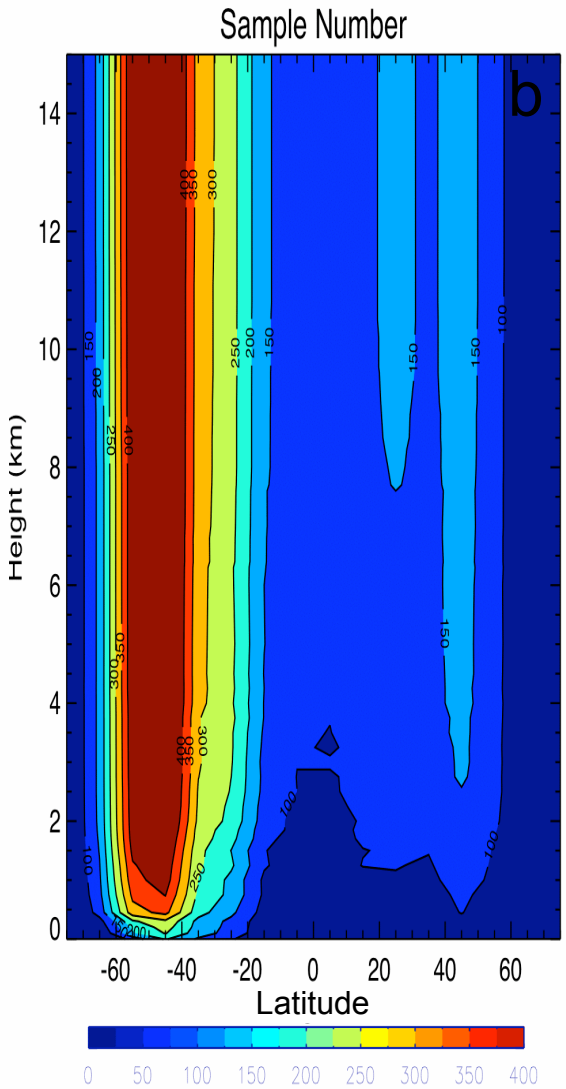
Median Absolute Deviation (g/kg)

Fig.9

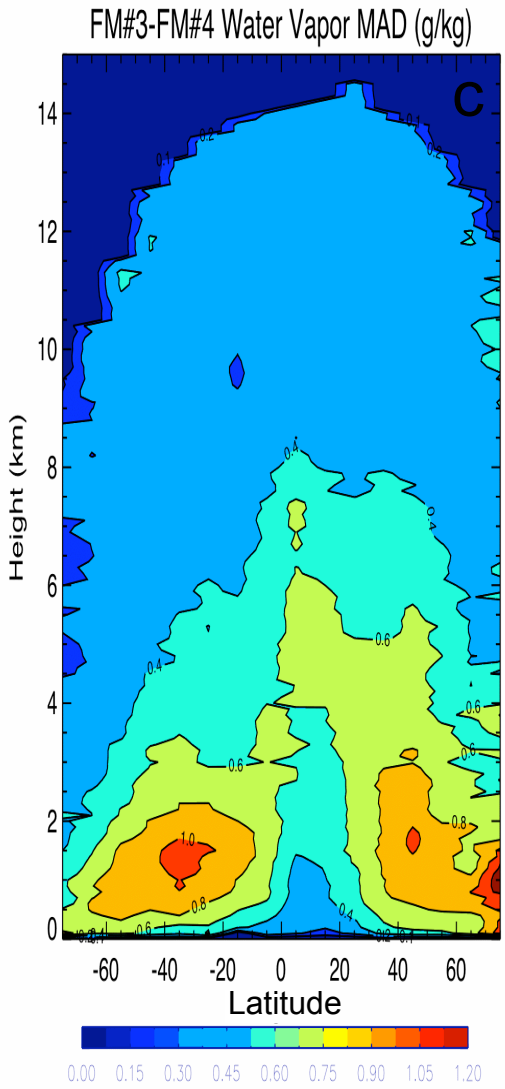
Mean FM#3-FM#4 Water Vapor difference (g/kg) over oceans



Water vapor Difference (g/kg)



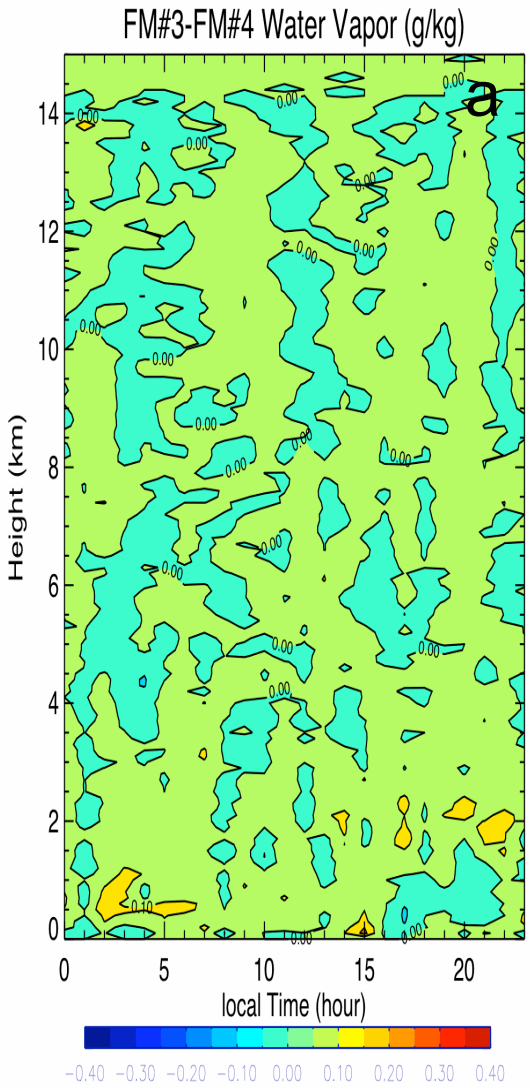
Sample Numbers



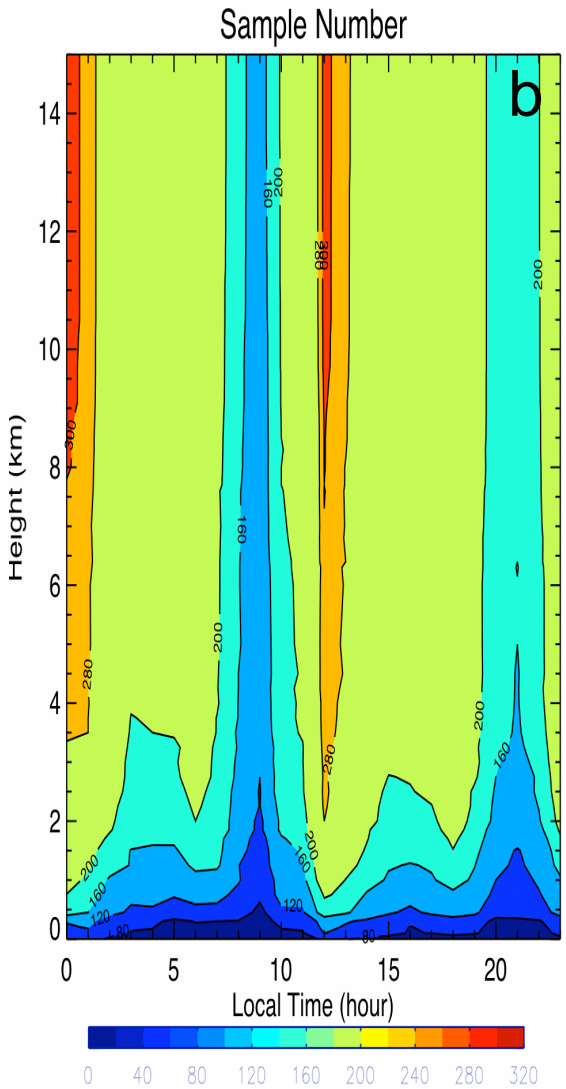
Median Absolute Deviation (g/kg)

Fig.10

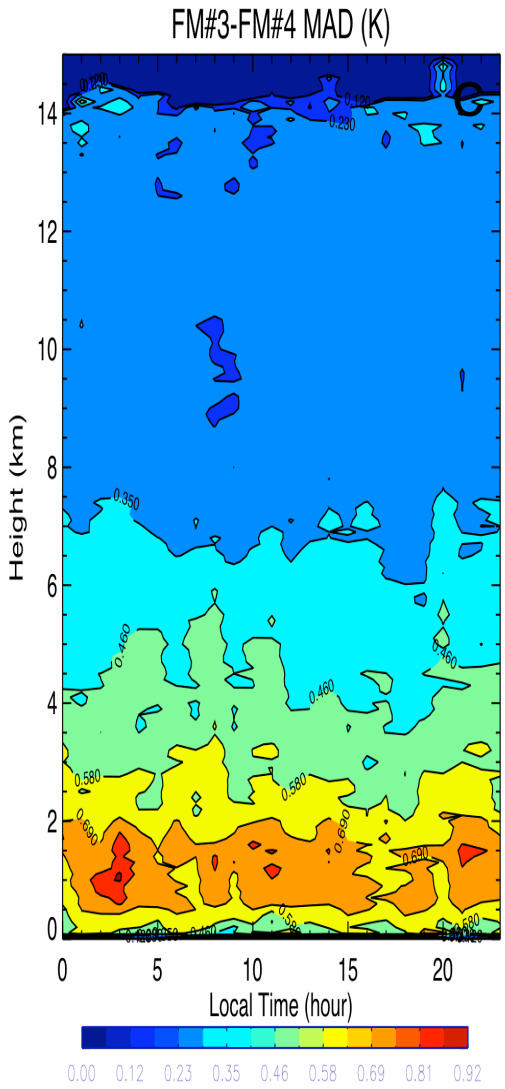
Mean FM#3-FM#4 Water Vapor difference (g/kg) at all local times



Water vapor Difference (g/kg)



Sample Numbers



Median Absolute Deviation (g/kg)

Fig.11