

HKO-NAN

On-time takeoff 18:56.12

Landing 03:51.33

Modify flight plan to account for ITCZ shift towards north. Skirt ITCZ on south-side at 4.5 N to remain min. 60 miles north of Fiji FIR.

So<sub>2</sub> (4-5 ppbv) and other S species on climb out of HKO. Encounter pollution plumes near model predictions. 110 ppbv CO, 60 – 70 ppb O<sub>3</sub>. Each profile shows CO 80 – 100 and O<sub>3</sub> 50 – 70, these regions become smaller towards ITCZ. Disappear south of ITCZ as predicted.

SF<sub>6</sub> appears to decline from 9.6 to 9.4 pptv from North to South of ITCZ. Clean in MBL south of ITCZ. O<sub>3</sub> = 6-7 ppbv. CO = 60 ppbv, no vertical gradient south of ITCZ. ATHOS pump failure at midpoint of flight.

See SH enhancements 20 ppbv CO and 30 ppbv O<sub>3</sub> in MBL at 9S. Model says BB.

T = 03:23. Peak CO 120 ppbv. TOGA sees elevated Benzene, CH<sub>3</sub>OH = 1500 ppt, Acetonitrile...Clearly BB.

MMS @ 30 kft.

### **Debrief**

Takeoff temperatures were too hot at takeoff. This led to general complaints of temperature especially during first profile. Things cooled off and most instruments fared well. AC cart available in Fiji

NOy good

DLH good

Picarro good

QCLS good.

SAGA good

Panther good. Too hot during flight.

AO<sub>2</sub> good

GT-CIMS good

NOAA CIMS good. Lost 20-30 minutes due to exhaust icing. Solution: drain before takeoff.

WAS good

MMS good

TOGA IP problem fixed. Nice Temp.

AMP Good. Too hot. Sporadic condensation. Address tomorrow.

CAPS Likes it warm

PALMS Good

ATHOS Pump (roots) failure at 4 hours into flight. Fixable on ground. Believe spares available.

ISAF Good

SP2 Good.

HRAMS Good

CITCIMS good



