TREX06: 20060406a
Intercomparison

Flight notes: System Scientist/Flight Scientist (3rd seat)

Crew:
  Pilot: Kevin Fagerstrom
  Flt Scientist: Jeff Styles (camera)
  System Scientist: Jeff French (also flight scientist)
  4th Seat: John Adair

Pre-flight:
  Radar down. Repairs on the modulator being done at ProSensing.
  No other instrument issues

Weather Conditions at Bishop: Clear, wind: calm, T=8C, DewPt=-8C

Plan to conduct inter-comparison with BAE146 and separately with Hiaper.

Right seat occupied by camera person to get footage of comparison with Hiaper and document TREX for NSF

Flight:
  1642: takeoff
  up to 1700: climb to FL230 towards west end point for sounding and to meet with BAE146.

Through the valley from surface to 700 mb: winds northerly, between 340 & 360 degrees,
wind speed increases from surface to 700 mb (0 at sfc; ~ 9 m s⁻¹ at 700 mb). Very dry and
stable through the depth. Wind remains northerly up to FL170 and increases to 18 m s⁻¹.
1700 BAE146 pass over our position as we pass through FL210

COMPARISON WITH BAE146
  1704: begin leg 1, tracking east at FL230
  170924: BAE passes off right wing tip (after passing BAE slides out to let us pass, then slides
          in behind, this is repeated on each of the subsequent legs)
  171438: BAE passes off right wing tip
  1715: end leg 1, turn south
  1722: begin leg 2, tracking west at FL230, encounter a bit of wake turbulence, climb ~200 ft
to get out of wake
  172526: BAE passes off right wing tip, wind 301 deg at 24 m s⁻¹
  173018: BAE passes off right wing tip, wind 302 deg at 22 m s⁻¹
  173250: end leg 2, turn north, descend to FL 180
  1742: begin leg 3, tracking east at FL180, weak wave over Sierra Crest (+/- 1 m s⁻¹)
  174339: BAE passes off right wing tip, wind 302 deg at 19.5 m s⁻¹
  175013: BAE passes off right wing tip, wind 312 deg at 20 m s⁻¹
  175220: end leg 3, turn south
  1759: begin leg 4, tracking west at FL180
180423: BAE passes off left wing tip, wind 314 deg at 18 m s⁻¹
180907: BAE passes off left wing tip, wind 306 deg at 18 m s⁻¹
181015 end leg 4

speed upto IAS of 180 kts for formation/photo op with BAE
1814-181545: formation with BAE
1816: break off with BAE146, ascend to FL220 to meet up with Hiaper

COMPARISON WITH HIAPER
182930: begin leg 1, tracking east at FL220, wind 297 deg at 22 m s⁻¹
183100: cross Hiapers wake, very brief
183608: Hiaper off left wing tip, wind 298 deg at 24 m s⁻¹
183838: end leg 1, turn south
184715: begin leg 2, tracking west at FL220, wind 302 deg at 24 m s⁻¹
185247: Hiaper off left wing tip, wind 302 deg at 22 m s⁻¹
190344: end leg 2, turn north, descend to FL180
191200: begin leg 3, tracking east at FL180, wind 307 deg at 16 m s⁻¹
192157: Hiaper off left wing tip, wind 306 deg at 20 m s⁻¹
192430: end leg 3, turn south
193200: begin leg 4, tracking west at FL180, wind 305 deg at 18 m s⁻¹
194242: Hiaper off left wing tip, wind 304 deg at 14 m s⁻¹
194930: end leg 4

195255: tracking east, pick up speed to IAS 180 kts
195950: Hiaper passes just off right wing tip for photo op

200000: RTB
202500: on ground

Post-flight/impressions
Wonderful weather for inter-comparison flight. Four very good comparison legs with each aircraft.

Data system cratered on taxi after landing. System rebooted itself. Did not affect data.