

CALIBRATIONS POSSIBLE WITH LAMS

Because LAMS Provides an Accurate Measurement of Airspeed:

- ① **Airspeed uncertainty:** reduced from $\approx 0.5\text{m/s}$ to $\lesssim 0.1\text{ m/s}$
- ② **Pressure uncertainty:** reduced from $\approx 1\text{ mb}$ to $\lesssim 0.15\text{ mb}$:
 - (a) Uncertainty arises from effects of airflow at static ports;
 - (b) Total pressure (dynamic + static) is measured accurately;
 - (c) The dynamic pressure arising from airspeed is predicted accurately by LAMS; so
 - (d) Pressure = (total-dynamic) pressure has reduced uncertainty
- ③ **Temperature uncertainty:** reduced from $> 1^\circ\text{C}$ to about 0.3°C .
 - (a) Accurate altitude from GPS is available;
 - (b) With improved measurement of pressure, integration of the hydrostatic equation during climbs and descents produces a usable independent measurement of temperature;
 - (c) Combining many such climbs and descents yields a new calibration of the temperature sensors.