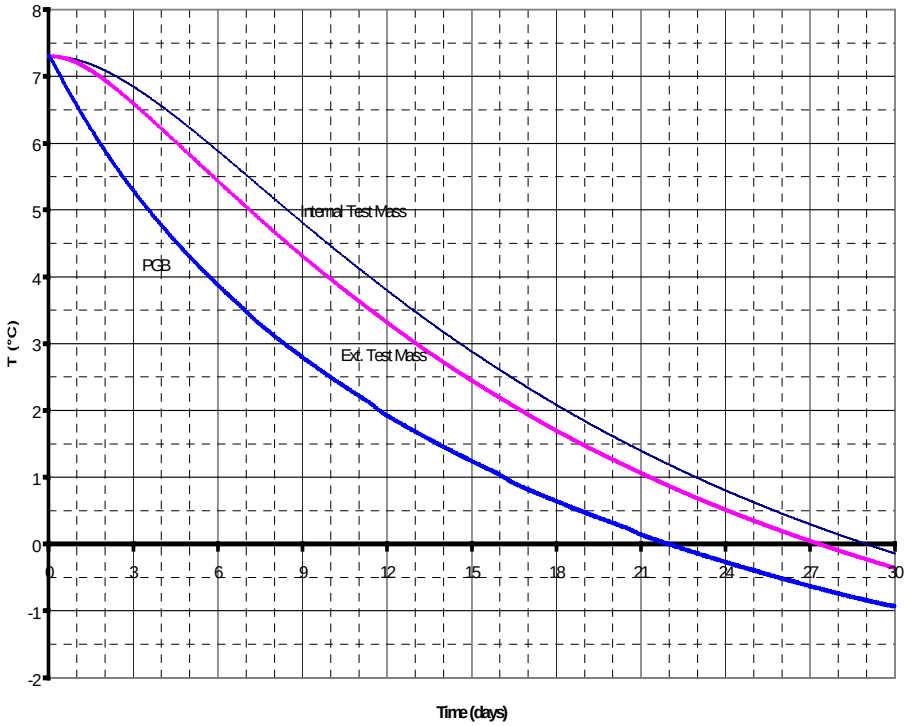
THERMAL ANALYSIS

- Temperature drifts and stability were assessed by a detailed thermal mathematical model. Worst case thermal gradients occur at zero declination of the sun (equinox)
- T_{eq} turns out to be -2.7°C, and temperature drift becomes < 0.2 °C/day after about 25 days, if $T_0 = T_{eq} + 10°C$
- Temperature oscillations at orbit frequency, due to eclipse transits, are < 0.01°C (PGB) and < 0.001 °C (test masses)
- Excellent temperature uniformity and stability is achieved
- Model confirms that spacecraft does not affect radiatively the PBG environment; thermal control of the payload and spacecraft modules is effectively decoupled
- Thermal control of the spacecraft elements is conventional; all equipment comply with design temperature limits. Maximum heater power 10 W (batteries). Estimated radiator area 0.32 m² + 20% (additional 50% margin available)



Temperature drift to equilibrium