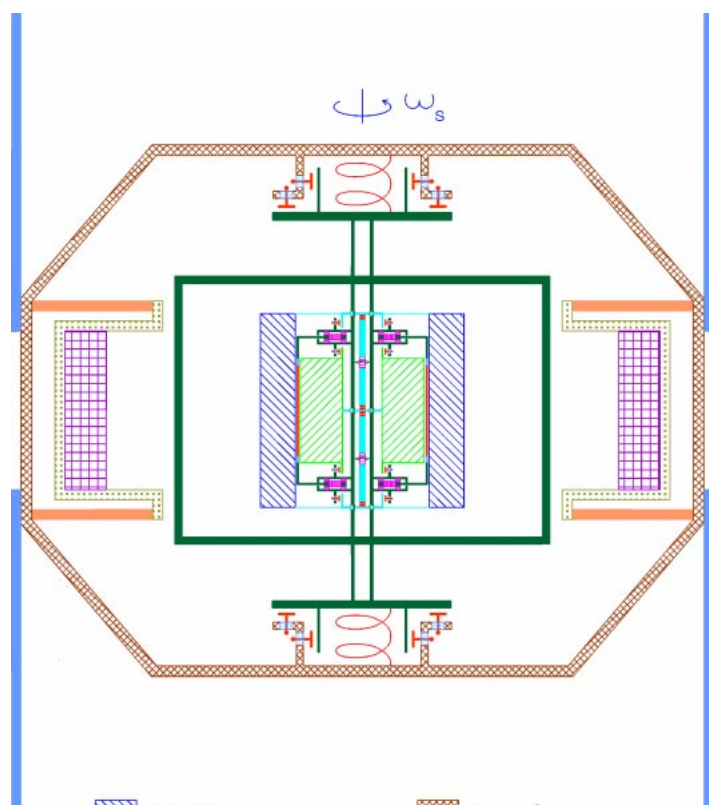


Why the GG Design? Novelties and Advantages (III)

The GG Spacecraft is Built around the Payload

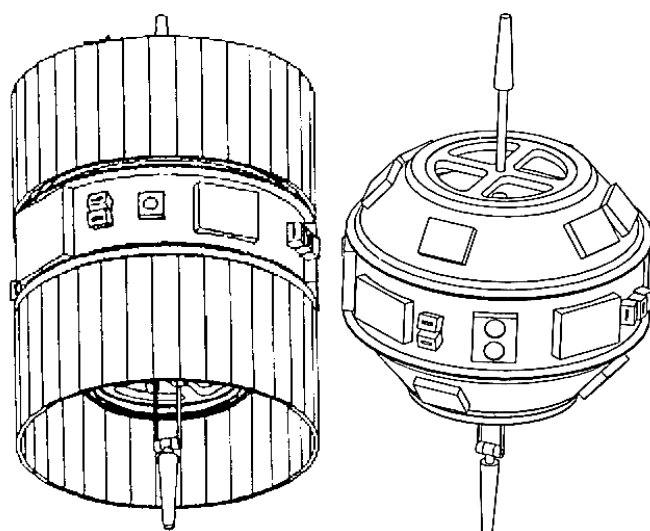


- | | |
|-----------------------------|-------------------------------|
| Outer test mass | Spacecraft |
| Inner test mass | PGB laboratory |
| Read-out capacitance plates | Coupling arms |
| Piezoelectric actuators | Electric insulators |
| Elastic flat gimbals | Capacitance sensors/actuators |
| Suspension springs | Inch-worms |
| Thermal expansive material | Compensation masses |
| Solar cells | Thermal insulator |

Passive one-axis stabilization

Small and compact ($1\text{ m} \times 1.3\text{ m}$),
251 kg mass (300 kg with 20% margin)

$$A/M = 0.005\text{ m}^2/\text{kg}$$



PRIMA SUBSYSTEMS AND COMPONENTS TO BE USED IN GG

Telecommunication system including S-Band antenna and transponder

On board data handling computer and remote terminal unit

Reaction control system (for spin up to nominal 2 Hz spin rate)

Power distribution unit and batteries

Earth and Sun Sensors

Ga-As solar cells

Only technological novelty: drag control with FEEP mini-thrusters. We know how to make drag-free control; FEEP is a technology interesting per se