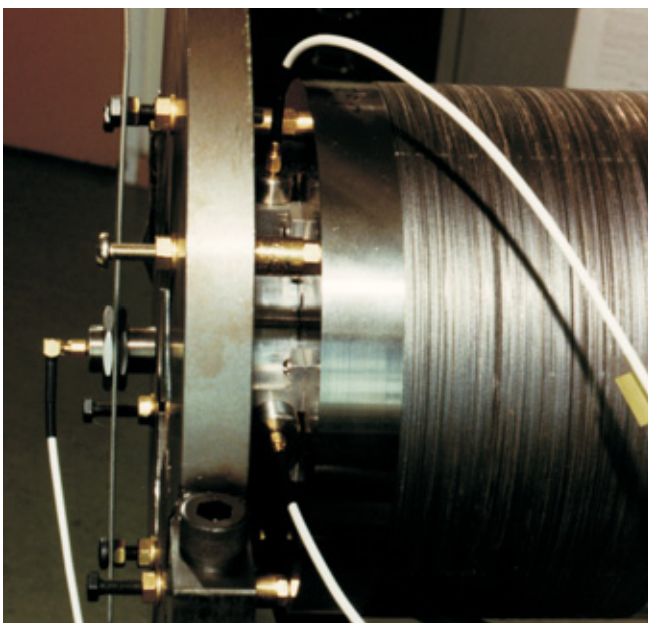
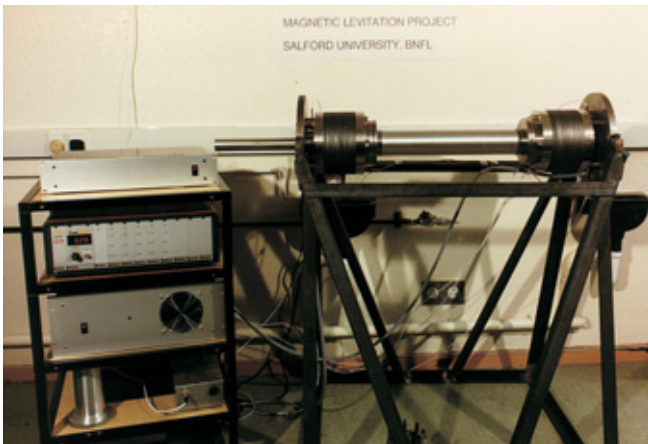


## Closed-loop gap control in magnetic bearings

A shaft weighing about 40 kg is supported in magnetic bearings. A ferromagnetic shaft journal is suspended in a magnetic field which is excited by surrounding excitation coils. To regulate the gap two sensors at each end measure in the radial direction, mutually offset by 90°, and one sensor measures axially against the shaft. Non-contacting and wear-free magnetic bearings are used in ultra-clean atmospheres and in extreme ambient conditions.



Pics: Univ. of Salford/England

### Technical details

- Measuring range: 0 - 1, 2, 4 mm
- Sensors: S1, S2, S4
- Band width: > 10 kHz

### Ambient conditions

- Temperature: Up to 120 °C
- Medium: Air or gas atmosphere
- Interference fields: Strong electromagnetic fields

### Measurement system setup

- RS584 - Desktop housing
- DD500 - Digital display
- OS510 - Oscillator
- DL500 (5 pcs.) - Demodulator
- S4 (5 pcs.) - Sensor
- C3 (5 pcs.) - Sensor cable
- BC-S4-C3 (5 pcs.) - Adapter board
- Alternative: DT110-S1M-C3

### Reasons for the system selection

- Non-contacting measurement method.
- Also insensitive to strong magnetic fields.
- No phase displacement in the used bandwidth.
- High measurement sensitivity and resolution.
- Low temperature drift.
- Sensors can also be used up to 120 °C.