

Practical Relativity

Global Positioning System (GPS)

- 24 satellites in high Earth orbit
- 20,000km altitude, 12^h period (14,000 km/h)
- Carry on-board atomic clocks

Relativistic effects on these clocks:

- Special Relativity: 7 sec/day *slower*
- General Relativity: 45 sec/day *faster*

Combined correction: $45 - 7 = 38$ sec/day

