## 24th Australian Institute of Physics Congress



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## An Ultra-sensitive Fibre Frequency Reference for Short-term Laser Stabilisation

*Tuesday 13 December 2022 12:00 (15 minutes)* 

We present an all-optical-fibre frequency reference with a state-of-the-art short-term stability of 0.1 Hz/ $\sqrt{\text{Hz}}$ , limited by double Rayleigh backscattering. The system also reaches the fibre thermal noise limit at infrasonic frequencies.

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