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Novel scheme to stabilize compact atomic clocks MICHAEL HO-HENSEE, DAVID PHILLIPS, RONALD WALSWORTH, Harvard-Smithsonian — Compact atomic clocks such as CPT and N-resonance clocks are typically operated in regimes for which the resonant frequency of the clock is relatively insensitive to power and frequency fluctuations of the laser. We propose a novel scheme in which the atomic medium provides both a stable clock resonance, as well as resonances with high-sensitivity to laser fluctuations which can thus be used to control these techical variations.

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