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Improvement of noise properties in SESAM mode-locked Er:fiber femtosecond lasers by intra-cavity filtering

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The slow response time of semiconductor saturable absorbers significantly increases the noise of generated pulse train. We report a substantial improvement of amplitude and phase noise properties in a SESAM mode-locked Er:fiber oscillator via intracavity spectral filtering. We observed a 2.6-fold reduction of integrated timing jitter to 1.71 ps.

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