



SEMINAR ANNOUNCEMENT

Timing stability enhancement of a mode-locked laser using SESAM mirror

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I report on an examination of pulse timing stability of a home built Erbium Doped Fiber Laser (EDFL) passively mode locked via nonlinear polarization rotation by inserting semiconductor saturable absorber mirror (SESAM) in laser cavity. A very low root mean square (RMS) timing jitter (less than 27 fsec) and faster self-starting mode locking have been established. In order to get clear, low noise signal for time resolving measurements, synchronization of EDFL laser with an external high precision electronic oscillator have been established. Subsequently, it is synchronized and optically cross-correlated with a Ti: Sapphire laser source (Micra). The measured relative timing jitter was found to be less than 65 fsec. In this way, the two, well synchronized Ti:Sapphire and EDFL laser pulses prove to be a powerful tool for time resolving measurements.

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