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Fermi laser synchronization: near future challenges

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There are three topics that we would like to investigate to improve the laser performance at FERMI in the near future:
- A time stabilization system for the long transport of the seed laser to experimental stations aimed at cancelling the long term drift in the pump-probe experiments, might be based on LAM
- A robust BOCC to synchronize a second Ti:Sa oscillator to the main one, i.e. 2 pulses at 800nm (the current system is designed for 1500 and
800 nm), in order to decouple the optical parameters of the pulse produced for pump-probe experiments from the one required for the FEL.
- Studies aimed at better understanding of the dynamic response of the phase of a Ti:Sa oscillators versus the voltage applied to the piezo actuator, in order to improve the frequency response of the control loop and the quality of the locking

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