

# Seminar talk, January 31st

## 10 am in seminar room B, 2.6.

### Anke Heilmann

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#### **Highly scalable coherent beam combining of high power femtosecond fiber amplifiers**

Increasing simultaneously the peak and average powers of femtosecond lasers would be beneficial for various fields ranging from fundamental research to industrial applications. While fiber lasers are well suited for providing high average powers, their peak powers remain limited due to the occurrence of nonlinear effects. A technique that has proven to be capable of overcoming this limitation is coherent beam combining (CBC), which consists in a spatial splitting of the laser beam prior to amplification, and a coherent recombination into one single beam afterwards. The XCAN project at the Ecole Polytechnique aims at the demonstration of the scalability of CBC laser setups by combining 61 high power fiber amplifiers. Within this talk, I will present first result obtained with a seven amplifier prototype.