

# A PASSIVELY MODE-LOCKED FS-LASER

DISCOVERING THE ULTRA-FAST – TRILLION TIMES FASTER THAN THE BLINK OF AN EYE

## Educational Er-doped passively modelocked fs-Laser

Femtosecond lasers produce one of the shortest events ever made by mankind. These lasers have found their way into many cutting-edge applications because of their excellent parameters such as high peak power and short pulse duration. An example of their use is in the fields of femto-biology and femto-chemistry where these lasers are used to track chemical processes on ultra-short timescales. Femtosecond lasers are also widely used in material processing, optical communication and medical surgery.

The open-platform femtosecond laser has an elegant, understandable design and serves as a hands-on educational experiment. With this system, students can manipulate every component in order to create pulses on their own. It gives the opportunity for students to train their skills in adjusting and aligning optical components. All in all, this compact and well thought through setup serves as the perfect addition for every university and technical college with a background in opto-physical education.

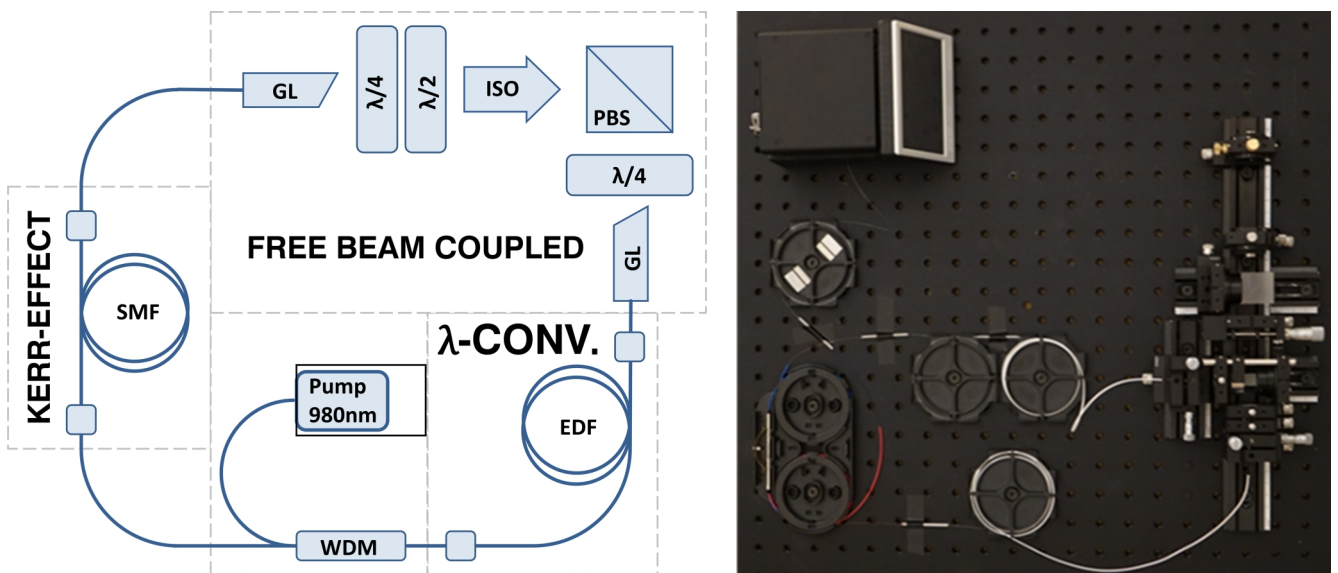


Fig. 1: Schematic and real setup of the fiber-based femto-second laser.