



**Chair of Prof. Krausz**  
**Ludwig Maximilian University of Munich (LMU)**  
**Max Planck Institute of Quantum Optics (MPQ)**

## **PhD position**

**Development of a phase-stable femtosecond high-power and high-repetition rate thin-disk-based laser oscillator**

### **Position description:**

**High-peak-power and high repetition rate femtosecond laser systems have broad range of feasible scientific and technological applications: attosecond pulse generation, pump-probe and high-resolution XUV spectroscopy, material processing. This work aims to make these applications reality.**

**PhD student will have a chance to face new tricky physics problems of inventive and fundamental character and to find a way to solve them theoretically as well as experimentally.**

### **Your tasks:**

- **development of a broadband femtosecond solid-state thin-disk Yb-based oscillator [1]**
- **complete characterization of this laser system**
- **carrier-envelope phase (CEP) measurement and stabilization [2]**
- **numerical optimization of the cavity configuration and simulations of the stability regime of soliton mode-locking**

### **Your qualification:**

- **good grades**
- **basic knowledge in optics**
- **programming skills**
- **(very) high motivation**

1. O. Pronin et al., Opt. Lett. 36, 4746 (2011)
2. A. Apolonski et al., Phys. Rev. Lett. 85, 740 (2000)

**Please forward your application including all relevant information to:**

**Dr. Alexander Apolonskiy**

Ludwig-Maximilians-Universitaet Muenchen

Am Coulombwall 1

85748 Garching

Tel. +49 89 289 14112 , Fax +49 89 289 14141

[Alexander.Apolonskiy@physik.uni-muenchen.de](mailto:Alexander.Apolonskiy@physik.uni-muenchen.de)