UNIVERSITÄT DUISBURG ESSEN

PHYSIK E=

Physikalisches Kolloquium

Mittwoch, 23.06.2021
13:00 Uhr
ZOOM-Online-Meeting

https://uni-due.zoom.us/j/61527991979?pwd=OHZyNktyRldiN1A2ZVhhb3Z5Q3F6dz09
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Probing the structure of strongly driven materials

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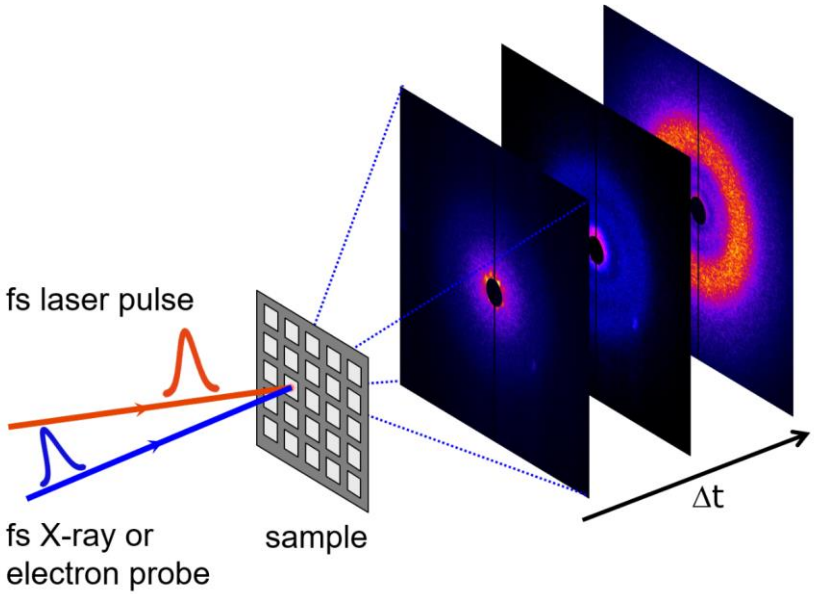

Irradiation of solid surfaces with intense ultrashort laser pulses represents a unique way of depositing energy into materials. It allows to realize states of extreme electronic excitation and/or very high temperature and pressure, and to drive materials close to and beyond fundamental stability limits. As a consequence, structural changes and phase transitions can occur on very rapid time-scales, and often along unusual, non-equilibrium pathways.

In this talk I will discuss examples of our work to demonstrate how the recent availability of ultrabright and ultrashort X-ray and electron sources has led to an improved understanding by providing an atomic-level insight into the underlying physical processes.