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Time resolved X-ray absorption spectroscopy in condensed matter: a glance to the future

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Abstract

Nowadays cutting edge femtosecond EUV and soft X-rays radiation sources are the driving force of groundbreaking time resolved X-ray spectroscopies. These new light sources are allowing pioneering experiments in the field of ultrafast phenomena and disclosing new insights about the physics of the out-of-equilibrium matter. Here we report an introductory and concise outlook about some possible perspectives in this field.

Keywords: time resolved x-ray spectroscopies, Free electron laser, High Harmonic Generation laser source, X-ray femtosecond slicing sources

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1.0 - Introduction

The gate for studying the matter out of equilibrium on the sub-picosecond time scale was unlocked in the 1980s when the first ~ 100 fs laser pulses have been generated by colliding-pulse mode-

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