

## LISTENING TO THE ULTRAFAST CHAT OF TWO EXCITED ELECTRONS...

... and asking them some quick physics questions!

## THOMAS PFEIFER

Max Planck Institute for Nuclear Physics (MPIK) Heidelberg Germany The matter we see around us consists of atoms with attached electrons, pairwise "glueing" atoms together in molecules, and giving objects their color by resonantly interacting with light. This talk starts out with how strong optical lasers can track and modify an electron pair in atoms. Experiments reveal a time-domain picture of absorption with a link between a lasercontrollable phase and the Fano resonance. The same physics unlocked new science areas ranging from large solution-phase molecules driven by lasers, to precision spectroscopy with coherent hard-X-ray light.



2:00 PM

CFEL SEMINAR ROOMS I-III









Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research



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