



How to Create and Use Ultra-Short Pulses of Light

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In 2018, (half of) the Nobel Prize in Physics was awarded for a method to create intense pulses of light lasting only femtoseconds (10^{-15} s). In 2023, the (whole) Nobel Prize in physics was awarded for a method to create pulses lasting only attoseconds (10^{-18} s).

Evidently, Nobel committees have a fondness for short pulses of light. In this talk, I will demonstrate a subset of reasons for this phenomenon, highlighting a handful of methods by which ultrashort pulses can be created and used. Use cases vary

from imaging the plasma formed during manmade attempts at nuclear fusion to filming the motion of a single atom within a molecule being ripped apart by intramolecular forces. Some would argue, however, that the most value offered by ultrashort pulses of light is the very training they demand from the students who attempt to create them. This training (spanning mathematics, physics, optics, and chemistry) can be applied far outside academia; it can land you a job in public policy, as I have learned recently, and provide you the opportunity to help shape the future of the country.

Open to all who wish to attend



Please contact SPS president Boone Fleenor at bfleenor@mail.umw.edu with any questions!

Hosted by the Department of Chemistry and Physics