Physics Department Seminar

Friday February 28th, 2014

3:00pm in Physical Science 105

"Principles and Applications of High Harmonic Generation"

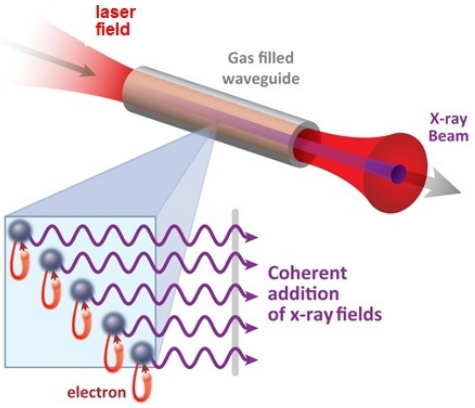
Dr. Paul Arpin

Lecturer

CSU Chico

Department of Physics

Abstract:



The element selectivity of short wavelength light makes it an ideal tool to investigate many questions in materials science. High harmonic generation provides a source of bright, laser-like beams of extreme ultraviolet radiation which have been used to characterize dynamic properties of materials and molecular systems. I will describe the three step high harmonic process where the rapid acceleration and deceleration of electrons in a strong laser field creates a bright beam of short wavelength radiation. In particular, I will highlight recent developments in the field that have extended the use-able range of high harmonic sources to shorter wavelengths opening the door to many new potential applications.