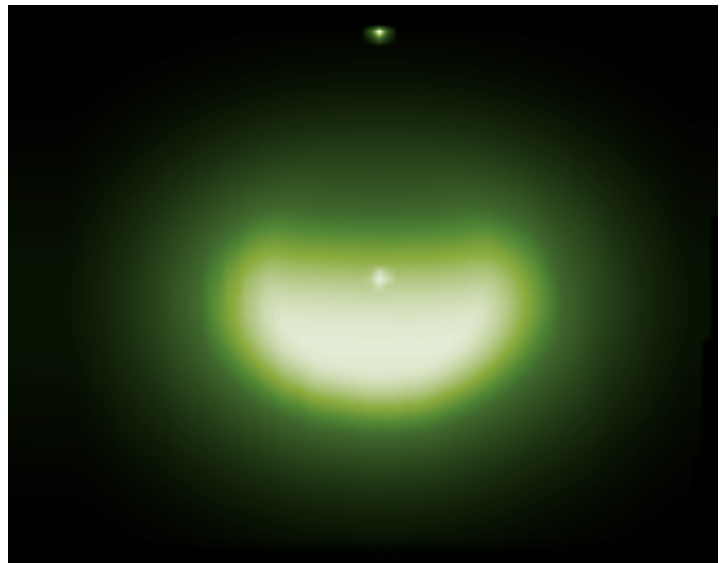




## Graduate Study in AMO Physics

[www.physics.utoledo.edu](http://www.physics.utoledo.edu)



Correlation in carbon 3P MCHF wavefunction (D. G. Ellis)

**Degrees offered:** M. S., M. S. E., Ph. D. in physics; concentrations in astronomy/astrophysics and in materials science; joint M. S. program with Electrical Engineering and Computer Science; Ph. D. concentration in medical physics offered jointly with Dept. of Radiation Oncology

**Faculty:** 24 in all (five, plus four emeriti, in AMO)

### Atomic, Molecular, and Optical Physics course offerings

- Plasma physics, atomic physics, spectroscopy, optics (one semester each, offered occasionally)
- Accelerator physics (offered yearly)

### Research areas

- Atomic and molecular transition probabilities and oscillator strengths (Cheng, Federman, Schectman)
- Excitation/ionization, charge transfer, secondary emission of electrons from surfaces, photodetachment (Kvale)
- Semi-empirical techniques for structure of highly excited molecules and atoms (Curtis)
- Theory of atomic structure and spectra, including high-performance computational techniques (Ellis)
- Quantum theories of two-atom, few-atom, and many-atom systems, including Bose-Einstein condensates (Gao)
- Plasma discharges, atomic structure, Rydberg states, radiative transitions, and photoionization (Theodosiou)
- Theory and design of optical integrated circuits, components, and devices (Bagley, Deck)
- Optical characterization of materials, optical design (Collins)

### On-campus research facilities

- Heavy ion and negative ion accelerators, atomic collision center, vacuum ultraviolet spectrometer, etc.
- Two Beowulf computer clusters, routine access to Ohio Supercomputer Center, Internet 2

### Administrative

**For admission:** Undergraduate GPA 2.7 or better; competitive. Provide official transcript and 3 letters of recommendation. GRE General required, Physics subject test encouraged. *Deadline:* Completed applications for fall should be at the Graduate School by 15 January in order to be considered in the first round. *International students:* TOEFL  $\geq$  213 or equivalent.

**Assistantships:** Stipend is competitive. Tuition is waived.

**For more information and to apply:** [www.physics.utoledo.edu](http://www.physics.utoledo.edu)

**Inquiries:** Prof. Nancy Morrison (graduate committee chair), [NMorris@UTNet.UToledo.Edu](mailto:NMorris@UTNet.UToledo.Edu)

5 May 2008