

# DAVID H. COHEN: biographical sketch

## EDUCATION

**University of Wisconsin-Madison** Ph.D. in Astronomy, 1996, “High-Energy Emission from B Stars and Its Relationship to Stellar Winds,” under the direction of Prof. Joseph Cassinelli

**Harvard College** A.B. in Astronomy and Astrophysics, *magna cum laude*, 1991, senior honors thesis, “Disentangling Double-Line Spectroscopic Binaries,” under the direction of Dr. David Latham

## EMPLOYMENT

**Associate Professor** Swarthmore College, 2006–present

**Assistant Professor** Swarthmore College, 2000–2006

**Research Scientist** Bartol Research Institute, University of Delaware and Prism Computational Sciences 1998–2000

**Post-doc, Assistant Scientist** Fusion Technology Institute and Astronomy Department, University of Wisconsin-Madison, 1996–1998

## RESEARCH INTERESTS

**X-ray spectroscopy** and **numerical modeling** of hot plasmas in laboratory and astrophysical settings

**Stellar winds** high-energy observations and analysis, collisional-radiative and hydrodynamic modeling, analytic modeling

**X-ray/EUV astronomy** spectral analysis, time-variability analysis, hot stars, young stars, interstellar medium

**Laboratory astrophysics** ionization/excitation kinematics modeling, spectroscopy, and experiment design of x-ray photoionized plasmas; plasmas heated by magnetic reconnection

**Inertial confinement fusion** experiment design and modeling—shock physics, ionization dynamics, and non-LTE physics

## SELECTED PUBLICATIONS (more information at [astro.swarthmore.edu/~cohen](http://astro.swarthmore.edu/~cohen))

Cohen, Kuhn ('07), Gagne, Jensen, & Miller, “Chandra Spectroscopy of the Hot Star  $\beta$  Crucis and the Discovery of a Pre-Main-Sequence Companion,” 2008, *MNRAS*, in press (arXiv:0808.4084)

Leutenegger, Paerels, Kahn, & Cohen, “Measurements and Analysis of Helium-Like Triplet Ratios in the X-ray Spectra of O-Type Stars,” 2006, *Ap.J.*, 650, 1096

Owocki & Cohen, “The Effects of Porosity on X-ray Emission Line Profiles From Hot-Star Winds,” 2006, *Ap.J.*, 648, 565

Cohen, Leutenegger, Grizzard ('06), Reed ('05), Kramer ('03), & Owocki, “Wind Signatures in the X-ray Emission Line Profiles of the Late O Supergiant  $\zeta$  Orionis,” 2006, *MNRAS*, 368, 1905

Gagne, Oksala ('04), Cohen, Tonnesen ('03), ud-Doula, Owocki, Townsend, & MacFarlane, “Chandra HETGS Multi-phase Spectroscopy of the Young Magnetic O Star  $\theta^1$  Ori C,” 2005, *Ap.J.*, 628, 986

Kramer ('03), Cohen, & Owocki “X-ray Emission Line Profile Modeling of O stars: Fitting a Spherically-Symmetric Analytic Wind-Shock Model to the Chandra Spectrum of  $\zeta$  Puppis,” 2003, *Ap.J.*, 592, 532

Cohen, de Messieres ('03), MacFarlane, Miller, Cassinelli, Owocki, & Liedahl, “Chandra Spectroscopy of  $\tau$  Scorpii: A Narrow Lined Spectrum from a Hot Star,” 2003, *Ap.J.*, 586, 495

Owocki & Cohen, “X-ray Line Profiles from Parameterized Emission Within an Accelerating Stellar Wind,” 2001, *Ap. J.*, 559, 1108