

NIST Atomic and Plasma Databases and Tools

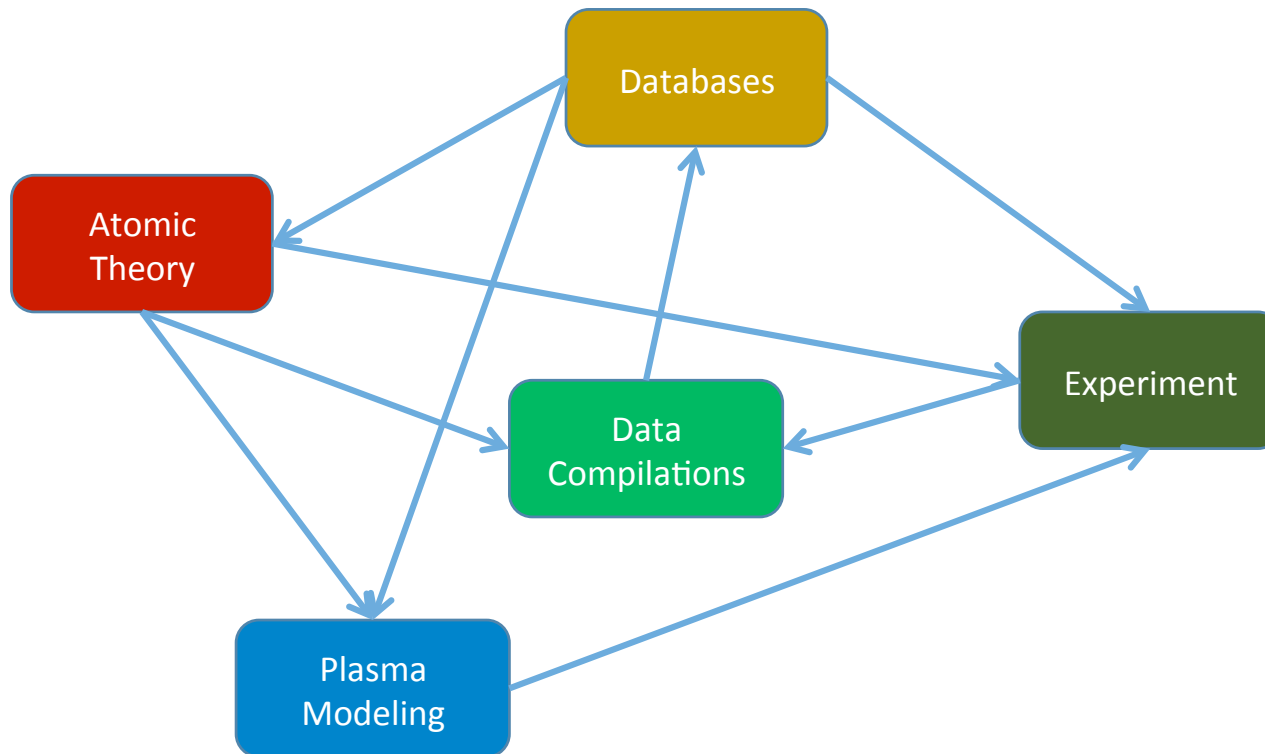
Yuri Ralchenko, Alexander Kramida, Joseph Reader,
and NIST ASD Team

VAMDC-USA Meeting, Oct 28 2014

Our Mission

To measure, calculate, critically compile, and disseminate reference data on *atomic structure and spectra* and *fundamental constants* in support of basic research, commercial developments, and national priorities

Interactions



Atomic and Plasma Databases and Tools

- Atomic Spectra Database
 - Spectral Lines
 - Energy Levels
 - Ground States and Ionization Energies
 - *Regularly updated*
- Handbook of Basic Spectroscopic Data
- MCHF/MCHDF Database
- Non-LTE Plasma Databases
- Online Collisional-Radiative Code FLYCHK
- Atomic Bibliographic Databases
 - Spectral Lines and Energy Levels
 - Transition probabilities
 - Line Shapes
 - *Automatic update system*

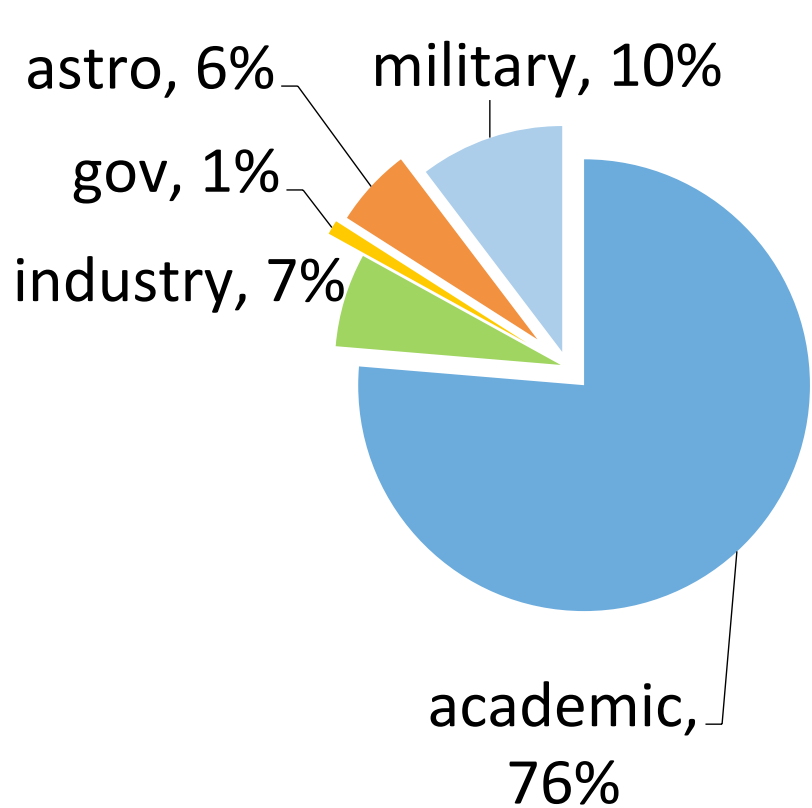
NIST and VAMDC

- AMDML (since 2003) => XSAMS
- External partner of VAMDC
- External partner of SUP@VAMDC
- Consortium: very unlikely...
- ASD: joining soon

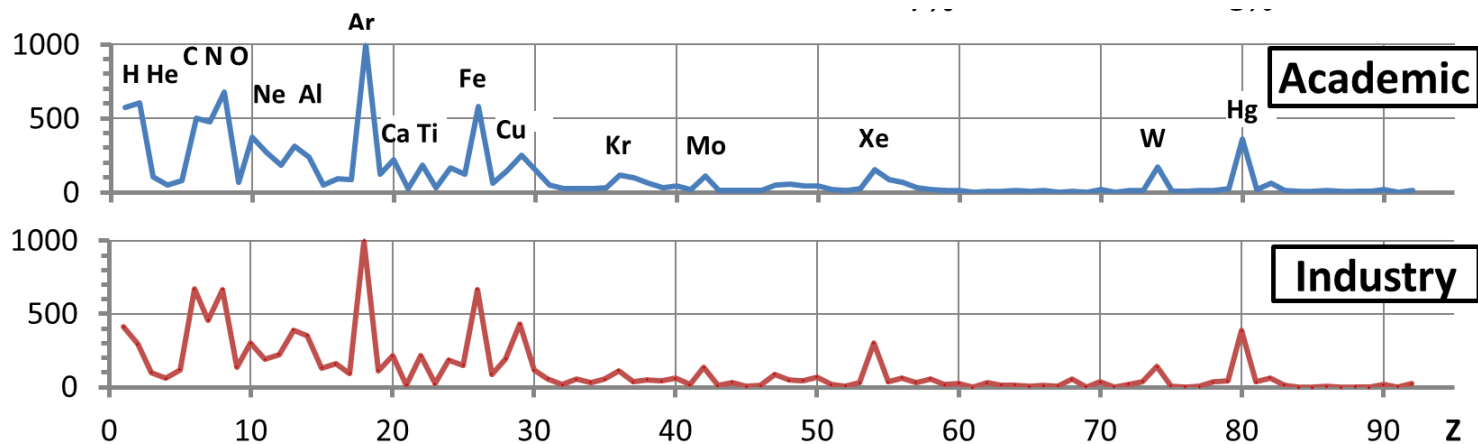
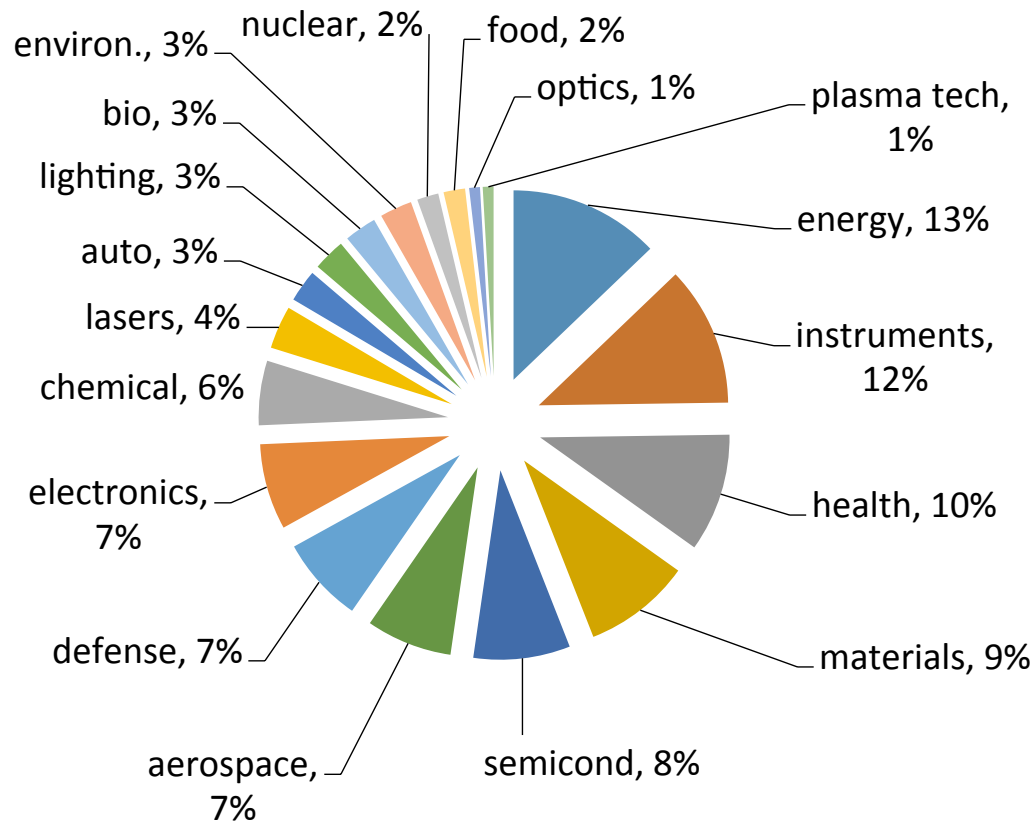
NIST Atomic Spectra Database

- v.3: 2004
- v.5.2
- Evaluated and Recommended Data on atomic structure
 - Level energies
 - Spectra lines, wavelengths
 - Transition probabilities

ASD users



ASD user industries



ASD Citations: 2009-2013

