Exceptional service in the national interest

SAND2017-10934PE

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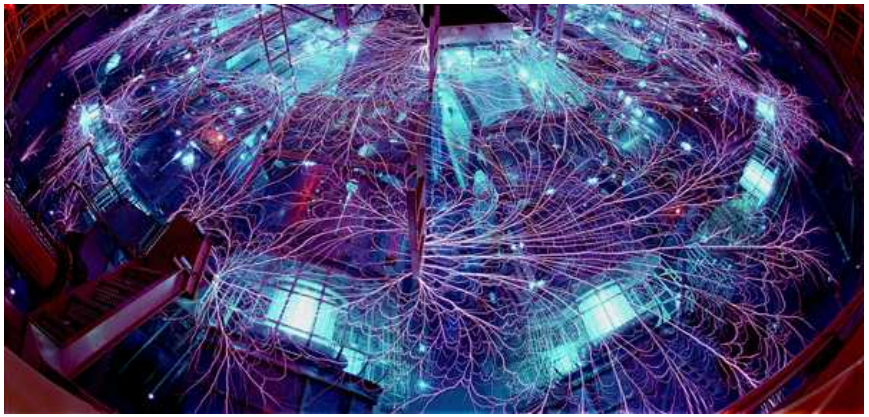
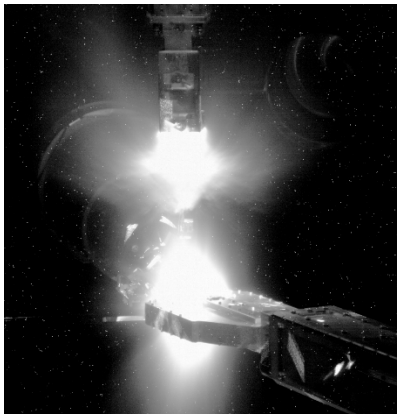




The After (LPS) Life

Kate Bell

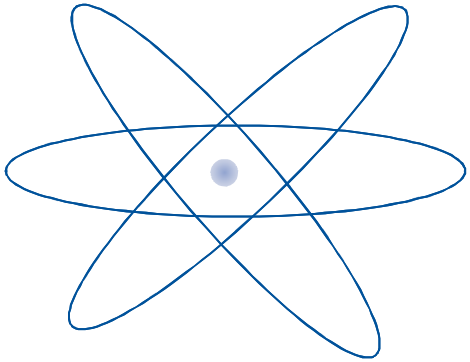
LPS@50 Anniversary Symposium

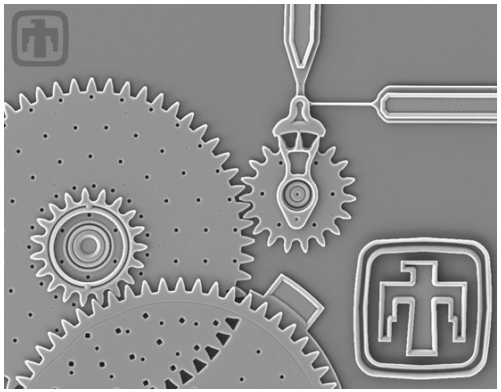
October 7th, 2017

U.S. DEPARTMENT OF ENERGY | NNSA National Nuclear Security Administration

BC: Before Cornell

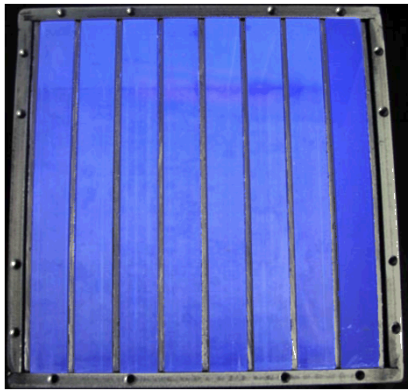
Sandia National Laboratories





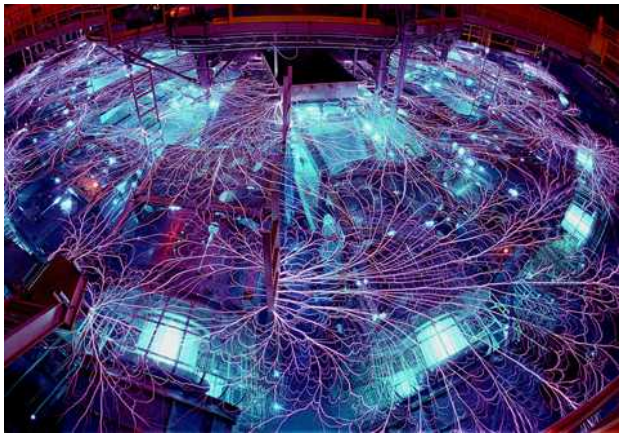
MicroElectroMechanical Systems

www.sandia.gov/mstc/mems_info/



Be “Layer Cake” Neutron Detector

Nelson, *et al* SAND2004-1163



The Z Machine

Duke logo from twitter.com/The1BlueDevil

The Formative Years 2006 - 2013

- M.S. August 2009
- Ph.D. August 2012

  Spectroscopic Determinations of Magnetic Fields, Electron Temperatures, and Electron Densities in Single Wire Aluminum Plasmas

- Postdoc

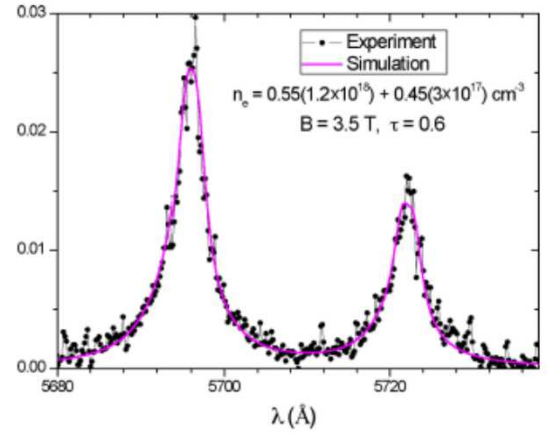


Figure 6.10: Shot 1462 spectrum at $r = -488\mu m$ fitted for two electron densities, opacity of $\tau = 0.6$, and a magnetic field of $B = 3.5T$.

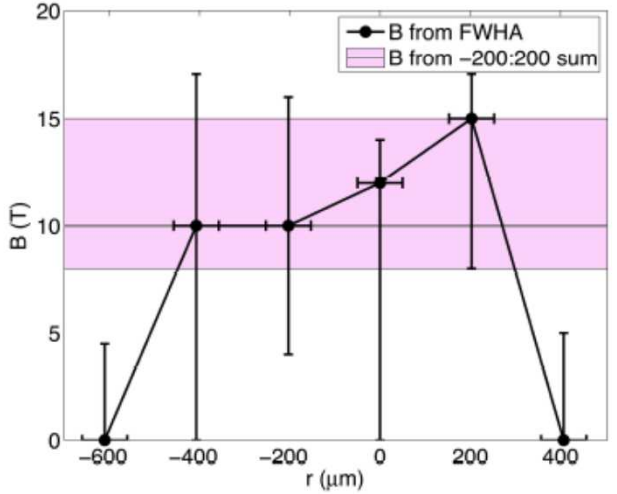
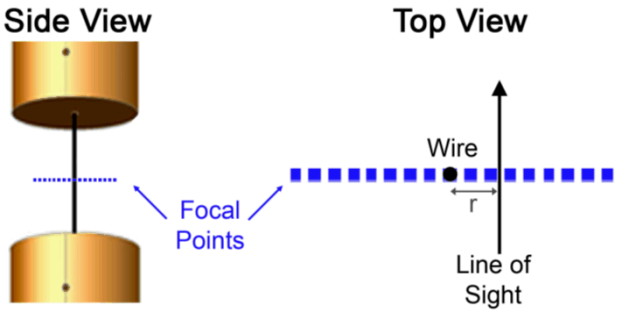
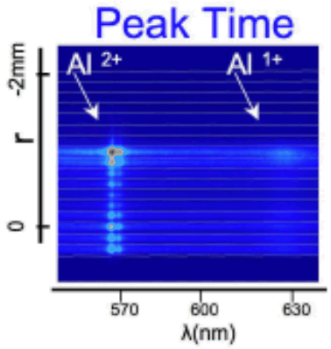


Figure 6.26: B inferred from the ΔFWHA shown in black with $\pm 2\sigma$ error bars from fitting the FWHA. If the three line profiles from $r = -200\mu m$ to $r = 200\mu m$ are summed, the resulting average B is the horizontal gray line with the pink area as the B range resulting from the FWHA error.





2013 & Beyond

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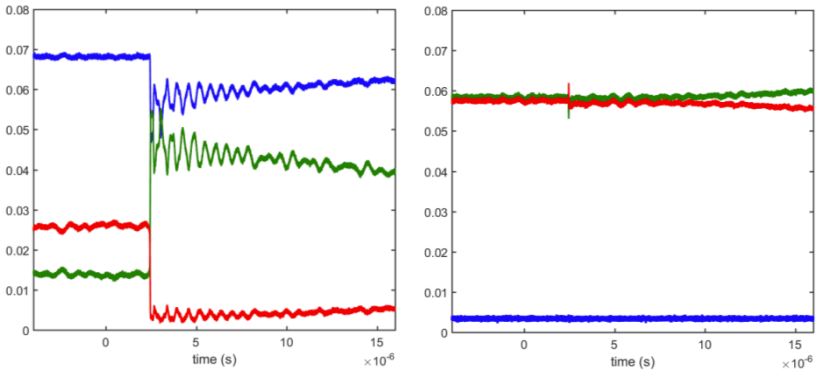
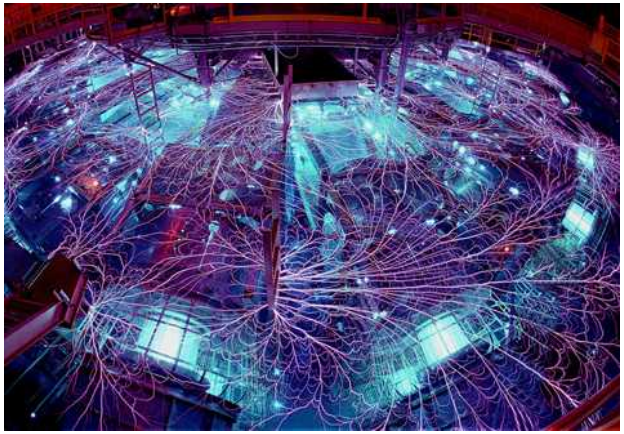
Radiation Effects Experimentation (Org 1343)

- Pulsed Power Education
  - Capacitors, inductance, transmission lines, switches, dielectrics, insulators, vacuum pumps, vacuum seals
    - HOW to FIX them!
  - Hardware design, machining, integration, COTS adaption
  - PCDs, spectroscopy (x-ray/visible), ICCDs, MCPs, interferometry, optics (x-ray/visible), fiber optics
  - Plasma physics, atomic physics
  - Exposure to Modeling
  - Presentation

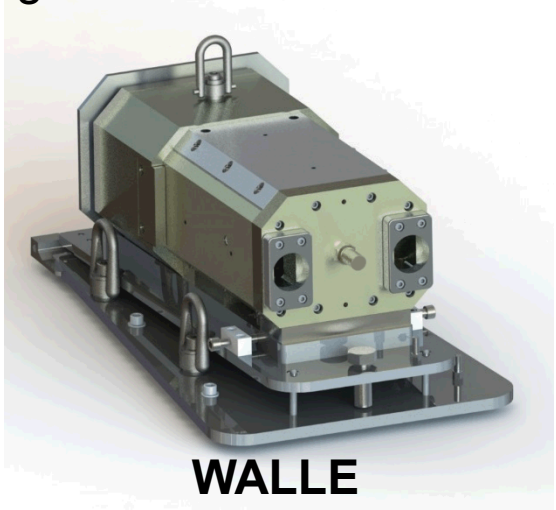
2013 & Beyond



EC-LDRD for fiber-optic interferometer for electron density measurements in high radiation environments

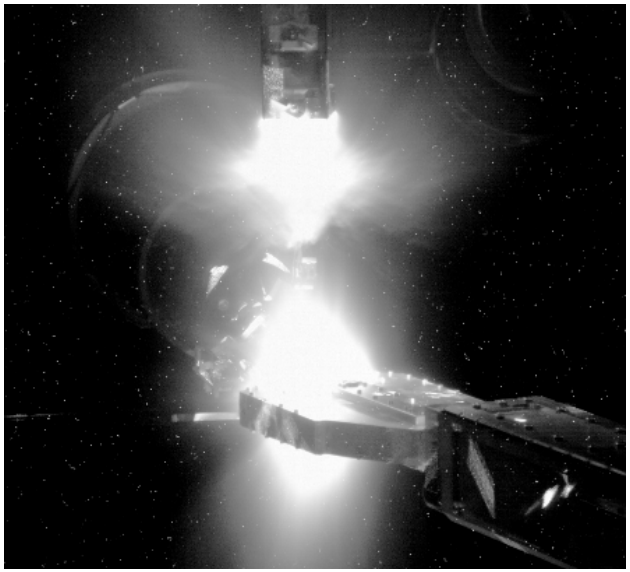


Radiation Effects Experiments at Z



WALLE

Wide-band Application Low-profile LOS Enclosure



First TMS experiments at the NIF

LPS Taught Me to…

…Make the Imaginary a Reality

LPS Taught Me to…

…Learn From Everyone Around You

LPS Taught Me to…

…Always Lift Up Your Team

LPS Taught Me to…

…Puzzle It Out

Thank You

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