

Summary of 11th United States/Japan Workshop on Inertial Electrostatic Fusion

Madison, Wisconsin, USA

October 12-13, 2009

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- I. **Converged Core Operation** (Kyoto, Wisconsin)
 - A. Increasing neutron production with decreasing fuel density
 - B. Alignment of guns is critical
 - C. Best validation of the Hirsch results in 40 years!
- II. **Improved Performance** (Kansai, Wisconsin, Missouri, Tokyo Inst. Tech., Kyoto)
 - A. Higher voltages
 - B. Higher currents
 - C. More pulsed devices
 - D. Direct energy conversion through multiple grids
- III. **Spinoffs and Applications** (Illinois, Kyoto, Missouri, Tokyo, Wisconsin)
 - A. Space thrusters
 - B. Neutron sources (nuclear assay)
 - C. Low Energy Nuclear Reactions
 - D. Isotope separation
 - E. Transmutation
 - F. Neutron transmutation doping
 - G. Neutron beam
 - H. Helium implantation

IV. New Physics (Wisconsin, Kyoto, Sydney)

- A. Negative ions
- B. Hirsch validation results
- C. Fast ions
- D. Atomic physics
- E. Spatial fusion distribution
- F. Micro channels

V. Modeling (Wisconsin, Kansai, TRIUMF, Sydney)

- A. Atomic and molecular physics effects
- B. Beam extraction
- C. POLYWELL Particle-In-Cell Calculations

VI. Power Supplies (Phoenix, Kurita, LANL, Sydney, et. al.)

- A. Much higher voltage
- B. Higher current (pulsed)
- C. Pulsed operation

VII. Other (Special) IEC Devices (Maryland, LANL, Sydney, TRIUMF, Tokyo, Illinois)

- A. Virtual cathodes
- B. Multigrid IEC
- C. Magnetic assisted IEC
- D. Dipole IEC
- E. Co-Axial cylindrical IEC