



RACE and RACE Plus

ECATS

Brussels, Belgium

20 April, 2005

Argonne National Laboratory



*A U.S. Department of Energy
Office of Science Laboratory
Operated by The University of Chicago*



RACE Presentations

- **Introduction – G. Imel**
- **The RACE Program – D. Beller**
- **The Idaho Accelerator Center – A. Hunt**
- **The Texas Reactors – S. O’Kelly**
- **A Proposed RACE Plus Program – G. Imel**



The current RACE project

- **Reactor-Accelerator Coupling Experiments**
- **Will be described by Denis Beller, Alan Hunt, and Sean O’Kelly**
- **Is essentially a university-based project**
- **Was not conceived of as a partial replacement for TRADE, but perhaps a bridge between MUSE and TRADE**



RACE Plus

- **RACE Plus is an attempt to satisfy some of the major objectives of the TRADE program through an enhanced RACE project**
- **It appears technically feasible to achieve sufficient source strength to demonstrate power feedback effects**
 - (more confirmation will come in the following months)
- **From the accelerator side, most of the components are on hand, so there is not a great capital cost**

RACE Plus (2)

- **The main non-technical issue regarding feasibility is that there is limited manpower at the universities**
- **National labs typically have project-oriented staff in**
 - Neutronics
 - Heat transfer
 - Safety
 - Design (e.g., target)
- **There was such a group assembled for TRADE, and it seems an obvious area for strong collaboration to the point where responsibility for certain tasks in RACE Plus could be assigned to European teams**

RACE Plus (3)

- **A proposed experimental program will be given after the presentations on the existing RACE program**
- **It assumes technical feasibility of the power achieved**
- **Assumes that the same measures foreseen for TRADE would still be of interest**
 - Primarily operational but also characterization (e.g., spectral measures)
 - Startup/shutdown, feedback, monitoring, etc