Title
LBNL perspective on inertial fusion energy

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Energy

LBNL Perspective on Inertial Fusion

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There are two fusion options.


- Challenges are different.

- Both are challenging in terms of science, technology, and economics. The DOE funds both options at about the same level.

- Both options will undoubtedly produce net energy.

- DOE Defense Programs

- DOE Energy Research

- Tokamaks

- Stellarators

- Other Alternatives

- Heavy Ions

- Lasers

- Light Ions

- Inertial
Development of target mass production techniques.

Chamber design, simulation, and experiments.

Driver technology development and cost validation.

Demonstration of essential beam physics and beam manipulations with driver-scale beams (construction of an accelerator facility).

Current dollars deliverables are:

To capitalize on target results from the National Ignition Facility in the year 2005, the Inertial Fusion Energy Program must grow to about $20M/yr in

verifications of good beam quality in full-scale beams.

Important program elements are cost reduction and experimental technology.

If leverages the worldwide investment in accelerator science and

If leverages the Defense ICF Program.

Heavy ion fusion has a low cost development
The incremental cost to develop IFE is relatively low. The potential payoff is very high.

- Chamber design and accelerator research.
- We are making excellent progress in target physics, target fabrication, and production.
- The combination of MFE and IFE provides a strong basis for fusion power.

Conclusion