

FUSION-FISSION HYBRID REACTORS

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A fusion-fission hybrid is reactor system having a fusion driver surrounded by a fission blanket. The fusion driver may be either an inertial or magnetical confinement system. The blanket may be designed to use fast or slow neutrons for fission, or to produce fissile isotopes from fertile ones. Combinations of these are also possible.

Hybrid systems are most often mentioned in connection with three different applications:

- 1) use of hybrids primarily as producers of the fissile material,
- 2) use of hybrids for radiotoxic waste disposal primarily as actinide burners,
- 3) use of hybrids as self contained electricity generating stations.

In this paper the basic concepts of some fission-fusion systems will be discussed together with potential advantages over alternative nuclear energy systems.