PLASMA ELECTRIC GENERATION SYSTEM

ABSTRACT

A system and apparatus for controlled fusion in a field reversed configuration (FRC) magnetic topology and conversion of fusion product energies directly to electric power. Preferably, plasma ions are magnetically confined in the FRC while plasma electrons are electrostatically confined in a deep energy well, created by tuning an externally applied magnetic field. In this configuration, ions and electrons may have adequate density and temperature so that upon collisions they are fused together by the nuclear force, thus forming fusion products that emerge in the form of an annular beam. Energy is removed from the fusion product ions as they spiral past electrodes of an inverse cyclotron converter. Advantageously, the fusion fuel plasmas that can be used with the present confinement and energy conversion system include advanced (aneutronic) fuels.

Fig. 21B