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## CURRENT STATUS AND FUTURE DIRECTIONS OF MAGNETIC FUSION ENERGY RESEARCH

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This talk reviews the research progress in the leading magnetic confinement concept — the tokamak. In the past decade, some of the most challenging issues facing magnetic fusion confinement have been systematically addressed and resolved. International collaboration is a key element for the success. In the process, the tokamak has proven to be an excellent vehicle for advancing magnetic fusion science. The knowledge gained provides confidence that other confinement concepts can mature rapidly and with predictable success. The tokamak is scientifically and technically ready to proceed to burning plasma and/or steady-state next step. A significant recent innovation has been the development of the advanced tokamak for high power density, high confinement, steady-state operation. Results from experiments and theory point to a practical path for affordable fusion energy.

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