

AN OVERVIEW OF THE MAGNETIC FUSION LANDSCAPE AND KEY TECHNICAL HURDLES TO OVERCOME



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Magnetic confinement is a leading candidate to produce the necessary conditions for creating net fusion energy. Recent scientific and technical advances have improved the prospects for magnetic fusion and have also clarified the remaining challenges to realizing practical, economic fusion energy systems. An introduction to the basics of magnetic confinement will be followed by discussion of the significance of several recent advances, including record fusion energy production and duration in tokamaks, the optimization of transport losses in stellarators, and the development of high-field REBCO superconductor magnets that will impact all forms of magnetic fusion. The remaining hurdles to be reviewed include obtaining plasma energy gain in the SPARC and ITER devices, and the required parallel technology development in robust first walls, heat removal and tritium production.

This presentation followed the Annual General Meeting held on September 28, 2022.

Recording of the full presentation available soon.