

Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

SPARC Overview and Plans DENNIS G WHYTE, MIT PSFC, CFS TEAM, MIT TEAM, SPARC TEAM — The MIT Plasma Science and Fusion Center is partnering with Commonwealth Fusion Systems to design and build SPARC, a whose goal is to demonstrate net fusion plasma energy gain $Q_p = P_{\text{fusion}}/P_{\text{ext}} > 2$ in a compact ($R \sim 1.65$ m) tokamak. The toroidal field coils will use REBCO high-temperature superconductors and R&D progress towards achieving $B_0 = 12$ tesla will be described. SPARC's detailed design and mission are discussed, including the possible addition of an advanced long-leg divertor. While funded by the private-sector, SPARC provides diverse opportunities for collaborations with the US and international fusion community. Work supported by Commonwealth Fusion Systems.

Robert Mumgaard
Commonwealth Fusion Systems

Date submitted: 10 Jul 2019

Electronic form version 1.4