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**A high fusion power gain tandem mirror** T.K. FOWLER, University of California, Berkeley, R.W. MOIR, Vallecitos Molten Salt Research, T.C. SIMONEN, LLNL (retired) — Utilizing advances in high field superconducting magnet technology and microwave gyrotrons we illustrate the possibility of a high power gain ( $Q = 10-20$ ) tandem mirror fusion reactor<sup>1</sup>. Inspired by recent Gas Dynamic Trap (GDT) achievements<sup>2</sup> we employ a simple axisymmetric mirror magnet configuration. We consider both DT and cat. DD fuel options that utilize existing as well as future technology development. We identify subjects requiring further study such as hot electron physics, trapped particle modes and plasma startup.

- [1]T.K. Fowler, R.W. Moir and T.C. Simonen, Nuclear Fusion 57 (2017) 056014  
[2]P.A. Bagryansky, et.al., Phys. Rev. Letters 114 (2015) 205001

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