

Abstract Submitted  
for the TSS13 Meeting of  
The American Physical Society

**The Physics of Spacecraft Propulsion Via Quark Pair Production from Parallel Electric and Magnetic Fields** GERALD CLEAVER, APS  
— Matter/antimatter (MAM)-based propulsion systems are viable options for both intrasolar system and interstellar travel. For example, the feasibility and functionality of on-board Schwinger electron-positron pair production via high power lasers has received growing interest lately. In this talk an alternate in-situ MAM production method will be discussed. Production of quark-antiquark pairs via interaction of parallel electric and magnetic fields associated with chiral symmetry breaking will be reviewed. Emphasis will be on the physics involved in the quark pair production and in the basic design of a related propulsion system.

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Date submitted: 01 Mar 2013

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