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## The Search for the Schwinger Effect: Non-perturbative Pair Production from Vacuum

*Tuesday, 9 July 2013 17:00 (1 hour)*

The prospect of next-generation ultra-high-intensity laser sources has prompted recent renewed study of the Schwinger effect, in which the instability of the QED vacuum is probed by external fields. Experimental observation of this long-sought effect would provide controlled access to non-perturbative processes in quantum field theory under extreme conditions, which is of direct interest in particle physics and astrophysical applications. I review why this is also such an interesting and challenging theoretical problem.

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