Quantum measurement engines

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I will present a new type of purely quantum engine design, whose fuel is the quantum measurement process. An elevator and battery concept will be given, where the system Hamiltonian does no work, and yet the engines function as desired. Conditions for optimal efficiency will be shown, which can approach unity. Unpublished results on an interaction-free measurement version of the engine will also be presented.

[1] C. Elouard, A. N. Jordan, Phys. Rev. Lett. 120, 260601 (2018). C. Elouard, M. Waegell, B. Huard, A. N. Jordan, arXiv:1904.09289.