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Acceleration of the Universe by renormalization-invariant effects of a free quantized scalar field LEONARD PARKER[1], University of Wisconsin-Milwaukee — We show how a non-interacting scalar field of very low mass can lead to a transition in vacuum energy and pressure that accelerates the recent expansion of the universe. This effect is invariant under renormalization, in the sense that it does not come from any of the renormalization constants, such as the cosmological constant, which we set to 0. [See L. Parker and D. A. T. Vanzella, Phys. Rev. D69, 104009 (2004), and references given there.]

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