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Quantum quench in a spinor BEC SABRINA LESLIE, JENNIE GUZMAN, MUKUND VENGALATTORE, CHRISTOPHER SMALLWOOD, DAN STAMPER-KURN, Physics Dept, UC Berkeley — We study the amplification of quantum fluctuations in a ^{87}Rb spinor BEC that is rapidly quenched from its paramagnetic phase to its ferromagnetic phase, as a function of the quench end point. By characterizing the onset of spontaneous ferromagnetism and the amplification properties of the spinor condensate, we probe the initial quantum fluctuations from which the resulting structures evolve. To characterize the spinor condensate as an amplifier, we temporally and spatially resolve the evolution of the vector magnetization profile as a function of the quench end point. In particular, we describe the formation of transversely magnetized domains and vortices as a function of the end point.

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