

Abstract Submitted  
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**Formation of Solitons During the BEC Phase Transition**<sup>1</sup> JIAJIA  
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During the formation of a Bose-Einstein condensate, local differences in the emerging  
phase and interferences can lead to topological defects. In our experiment we analyze  
these dynamics in an elongated geometry and observe a pronounced appearance of  
solitons when the phase transition from a cloud of classical  $^{87}\text{Rb}$  atoms to a BEC  
in a cigar-shaped trap is crossed sufficiently rapidly. The spontaneous formation of  
such topological defects is a general feature of continuous phase transitions. Recent  
and ongoing results will be discussed.

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