

Abstract Submitted  
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**Bose-Einstein Condensate in a Non-abelian Gauge Potential** HUI  
ZHAI, Institute for Advanced Study, Tsinghua University — We studied a Bose-  
Einstein condensate in two different types of non-abelian gauge potential. One  
corresponds to an isotropic Rashba spin-orbit coupling, and the other corresponds  
to highly anisotropic spin-orbit coupling realized in recent NIST experiment. In both  
cases, we find the system will develop spin stripes in certain parameters regimes,  
and will exhibit spin-stripe to plane wave phase transition as parameters change.

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