

Abstract Submitted  
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**Spin-Current Order in Anisotropic Triangular Antiferromagnets**

O.A. STARYKH, University of Utah, A.V. CHUBUKOV, University of Wisconsin  
— We analyze instabilities of the collinear up-up-down state of a two-dimensional quantum spin- $S$  spatially anisotropic triangular lattice antiferromagnet in a magnetic field. We find, within the large- $S$  approximation, that near the end point of the plateau, the collinear state becomes unstable due to the condensation of two-magnon bound pairs rather than single magnons. The two-magnon instability leads to a novel two-dimensional vector chiral phase with alternating spin currents but no magnetic order in the direction transverse to the field. This phase breaks a discrete  $Z_2$  symmetry but preserves a continuous  $U(1)$  one of rotations about the field axis.

Oleg Starykh  
University of Utah

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