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Flat spin wave dispersion in a triangular antiferromagnet OLEG STARYKH, University of Utah, ANDREY CHUBUKOV, University of Wisconsin, ALEXANDER ABANOV, Stony Brook University — The excitation spectrum of a S=1/2 two-dimensional triangular quantum antiferromagnet is studied using 1/S expansion. Due to the non-collinearity of the classical ground state significant and non-trivial corrections to the spin wave spectrum appear already in the first order in 1/S in contrast to the square lattice antiferromagnet. The resulting magnon dispersion is almost flat in a substantial portion of the Brillouin zone. Our results are in quantitative agreement with recent series expansion studies by Zheng, Fjærestad, Singh, McKenzie, and Coldea [PRL **96**, 057201 (2006) and cond-mat/0608008].

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