

Abstract Submitted  
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**Elementary excitations in the spin liquid phase of  $\text{Cs}_2\text{CuCl}_4$  as revealed by  $^{133}\text{Cs}$  NMR spin-lattice relaxation rate measurements.** MARC-ANDRE VACHON, GEORGIOS KOUTROULAKIS, OOKIE MA, BRAD MARSTON, VESNA F. MITROVIC, Brown University, ARNEIL P. REYES, PHILIP L. KUHNS, NHMFL, RADU COLDEA, Bristol University, Z. TYLCZYNSKI, Adam Mickiewicz University — We present  $^{133}\text{Cs}$  NMR spin-lattice relaxation rate measurements in the spin liquid phase of  $\text{Cs}_2\text{CuCl}_4$  as a function of temperature and external magnetic field. At fixed temperature, we found that the rate increases with increasing field, reaching a maximum at the phase boundary of the spin liquid state. The results are compared with the calculated NMR rates in different proposed spin liquid states. The implications of the results on determining the fermionic or bosonic nature of the elementary excitations in the spin liquid phase will be discussed.

Marc-Andre Vachon  
Brown University

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