

Abstract Submitted  
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**NMR Investigation of 2D Frustrated Heisenberg Antiferromagnet** - V.F. MITROVIĆ, M-A. VACHON, Department of Physics, Brown University, A.P. REYES, National High Magnetic Field Laboratory, R. COLDEA, Clarendon Laboratory, Oxford University — The  $\text{Cs}_2\text{CuCl}_4$  compound represents the first clean experimental realization of a 2D spin-1/2 frustrated Heisenberg antiferromagnet. Detailed neutron scattering studies<sup>1</sup> have established that this system exhibits many exotic properties such as spin-1/2 spinon quasiparticles and unusual phases stabilized by the applied magnetic field. NMR measurements are crucial for providing insight into the microscopic mechanism governing these phase transitions, induced by low-energy processes. We report  $^{133}\text{Cs}$  spectra and  $T_1^{-1}$  rate measurements of  $\text{Cs}_2\text{CuCl}_4$  at low temperatures in magnetic fields up to 15 T. We find that the rate exhibits a strong field dependence. Temperature and field dependence of the shift data will also be presented. Implications of these measurements to the microscopic spin structure and low energy spin dynamics in this compound will be discussed.

<sup>1</sup>R. Coldea *et al.*, Phys. Rev. Lett. **86**, 1335, (2001); R. Coldea, *et al.*, Phys. Rev. Lett. **88**, 137203, (2002).

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