

Abstract Submitted  
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**Freezing the 2D distorted kagome spin liquid  $\text{Nd}_3\text{Ga}_5\text{SiO}_{14}$**   
CHRISTOPHER WIEBE, HAIDONG ZHOU, BRANDON VOGT, JOHN JANIK,  
Y.-J. JO, LUIS BALICAS, JASON GARDNER, FSU/NHMFL — The distorted  
kagome system  $\text{Nd}_3\text{Ga}_5\text{SiO}_{14}$  has been investigated with neutron scattering down  
to 0.046 K with no evidence of magnetic long-ranged order of the  $\text{Nd}^{3+}$  moments  
in zero field. Substantial diffuse scattering is observed which is consistent with pre-  
vious measurements of nearest neighbor correlations between the fluctuating spins.  
Upon the application of a magnetic field in the  $c$ -direction, the diffuse scattering is  
reduced in intensity while magnetic Bragg peaks grow in intensity to saturate by 1  
T. The net moment along the  $c$ -axis is  $1.5(1) \mu_B$ , only  $1/2$  of the value of the full  
moment of  $3.2 \mu_B$  per Nd spin, consistent with a  $1/2$  magnetization plateau in the  
DC susceptibility. A phase diagram is constructed to denote the boundary between  
a 2D spin liquid and spin solid phase.

Christopher Wiebe  
FSU/NHMFL

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