

Abstract Submitted
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Freezing the 2D distorted kagome spin liquid $\text{Nd}_3\text{Ga}_5\text{SiO}_{14}$
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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 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.

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