

## From the Geometrically Frustrated Antiferromagnets $\text{ZnV}_2\text{O}_4$ and $\text{ZnCr}_2\text{O}_4$ to the Heavy-Mass Fermi Liquid $\text{LiV}_2\text{O}_4$

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The specific heat measurements on the geometrically frustrated magnets  $\text{ZnV}_2\text{O}_4$  and  $\text{ZnCr}_2\text{O}_4$  were carried out. In both compounds, the strong influence of geometric frustration is clearly seen from the large size of residual entropy for the temperature much lower than the corresponding Weiss temperature. Comparing with the result of the chromate which has no orbital degree of freedom, we claim that in  $\text{ZnV}_2\text{O}_4$  the spin degree of freedom dominates the observed residual entropy. The systematic study of specific heat on the series  $\text{Li}_x\text{Zn}_{1-x}\text{V}_2\text{O}_4$  enables us to identify the dominating role of frustration with the observed, different phases from the Zn end frustrated magnet to the heavy-mass Fermi liquid  $\text{LiV}_2\text{O}_4$ .

**KEYWORDS:** Geometric frustration, Strongly correlated materials, Heavy fermion