

Abstract Submitted
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A study of the spin-gaps in the organic conductor Perylene₂[Pt(mnt)₂] with the application of high magnetic field using an inductive AC susceptibility method¹ LAUREL WINTER, JAMES BROOKS, PEDRO SCHLOTTMANN, Florida State University/NHMFL, MANUEL ALMEIDA, Instituto Tecnológico e Nuclear, Instituto Superior Técnico, SHERMANE BENJAMIN, Florida State University/NHMFL, CLAUDE BOURBONNAIS, Université de Sherbrooke — To further understand the spin-charge coupling present in the dual-chain organic conductor Per₂[Pt(mnt)₂] we utilized an inductive ac susceptibility method to study the spin-Peierls (SP) ordered state.² Besides reaffirming the coexistence of the SP-CDW below 8 K and 20 T, our measurements also showed the emergence of a second spin-gapped phase above 20 T that coincides with the previous observed field-induced insulating phase. Our results provide support for the continued coupling of the charge and spin order parameters even in high magnetic fields and hints at the possibility of further spin and charge gaps above 45 T. ² L.E. Winter, J.S. Brooks, P. Schlottmann, M. Almeida, S. Benjamin, and C. Bourbonnais, *Europhys.Lett.*, **103** (2013) 37008.

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