Competition Between Antiferromagnetism and Ferromagnetism in Sr_2RuO_4 Probed by Mn and Co Doping

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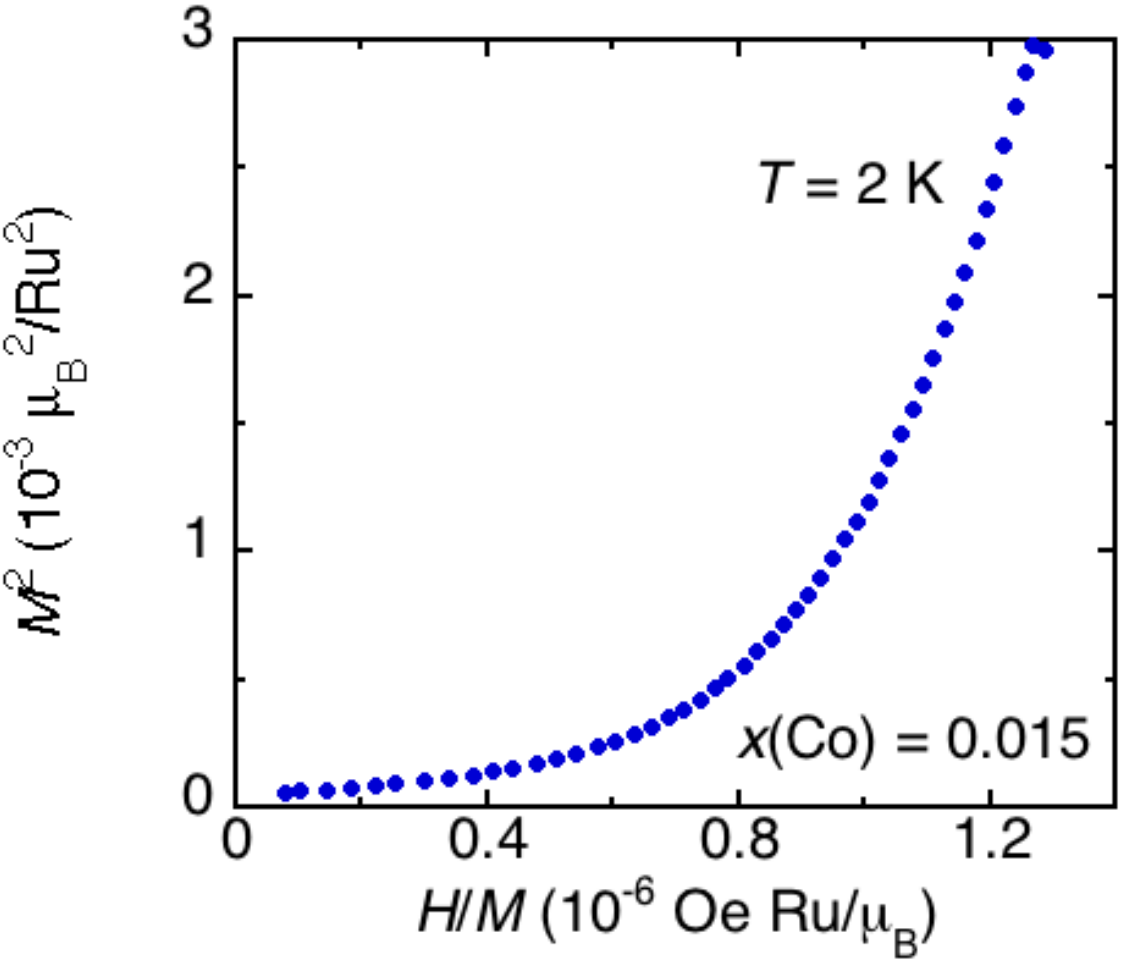
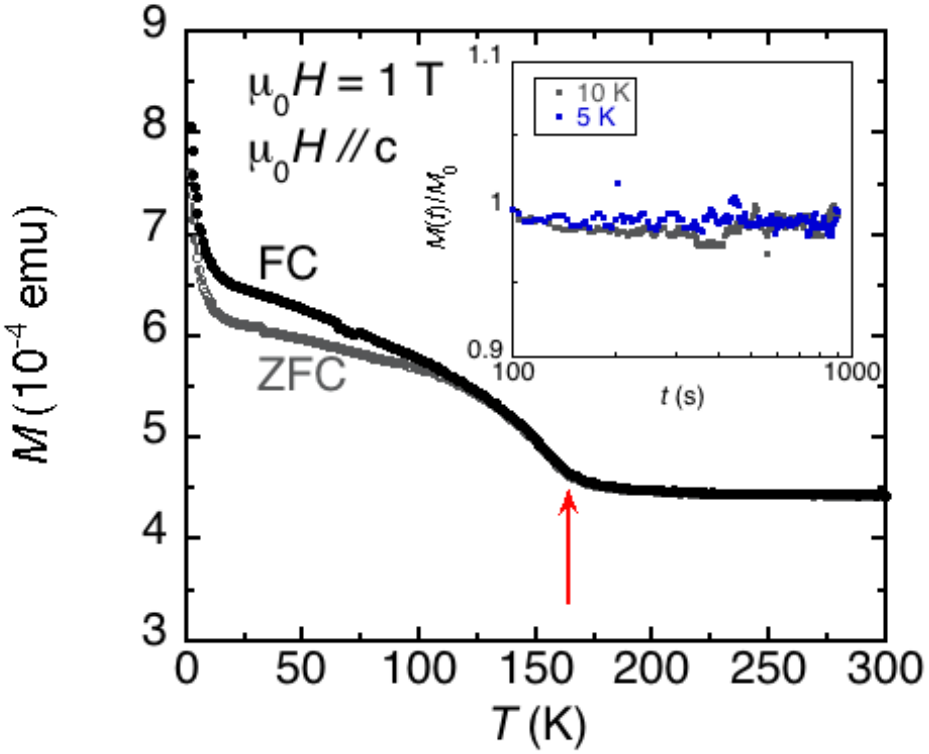
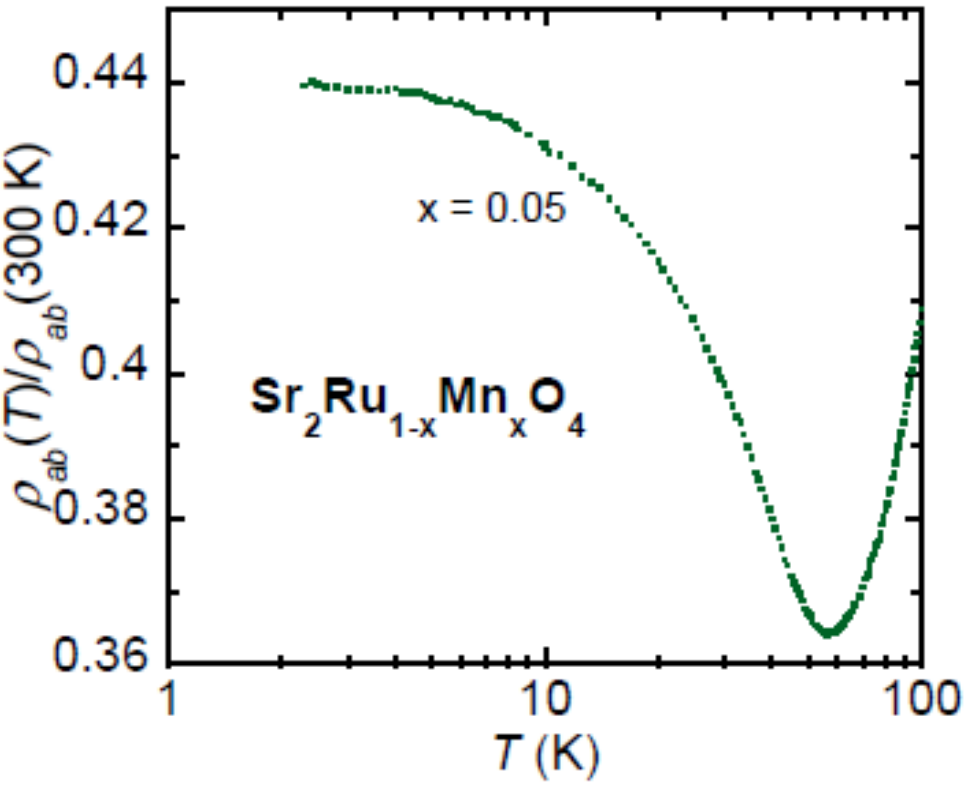
Supplementary Information



SI-Fig. S1: Arrott plot of 1.5% Co-doped Sr_2RuO_4 at T = 2 K. The curve does not intersect the vertical axis above the origin, implying that the sample does not form long-range FM order. This, combined with our other magnetization measurements, leads us to instead conclude that Co-doped Sr_2RuO_4 forms short-range FM order.



SI-Fig. S2: Susceptibility data of undoped Sr_2RuO_4 sample with substantial $SrRuO_3$ intergrowth. The arrow indicates the sharp upturn in susceptibility associated with $SrRuO_3$ intergrowth. This feature is absent in our samples mentioned in the manuscript, indicating that these samples contain negligible $SrRuO_3$ intergrowth. The inset shows the absence of relaxation in the sample with intergrowth.



SI-Fig. S3: Low-temperature upturn of 5% Mn-doped Sr_2RuO_4 plotted on log(T) scale. We do not observe the expected log(T) temperature dependence, which excludes the possibility that Mn-doping results in a Kondo effect.