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Demagnetizing effect in local magnetic measurements[1] BO WEN, CUNY-CCNY/GC, PRADEEP SUBEDI, NYU, YOSI YESHURUN, Bar-Ilan Univ., MYRIAM SARACHIK, CUNY-CCNY, ANDREW KENT, NYU, ANDREW MILLIS, Columbia Univ., ENRIC PARDO, Slovak Accademy of Sciences, SHREYA MUKHERJEE, GEORGE CHRISTOU, Univ. of Florida — It is well-known that magnetic measurements need to be corrected for the presence of demagnetizing fields that depend on both χ and the sample shape. Calculated demagnetization factors are generally available in tabular form for standard shapes, such as ellipsoids, spheres, and parallelopipeds, thereby providing corrections for measurements of the magnetization of the entire sample. However, appropriate corrections are not available for measurements obtained by local probes, such as micron-size Hall sensors. In this talk we present calculations of the local demagnetizing field profile and show how these results can be applied to interpret local magnetization measurements in Mn_{12}-ac.

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