

Electronic Supplementary Information (ESM)

New Insights about CuO Nanoparticles from Inelastic Neutron Scattering

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INFORMATION ABOUT ELECTRONIC SUPPLEMENTARY MATERIAL. The ESM includes additional data and figures of the spin-wave excitations of 15 nm CuO and particle-size dependence of CuO INS spectra.

Figure S1. $S(Q,E) \cdot E/[n(E,T)+1]$ intensity of the spin-wave excitations of 15 nm CuO particles at different temperatures obtained from the $S(Q,E)$ spectra measured with $E_i=25$ meV and summed over energy range $E=3$ to 10 meV.

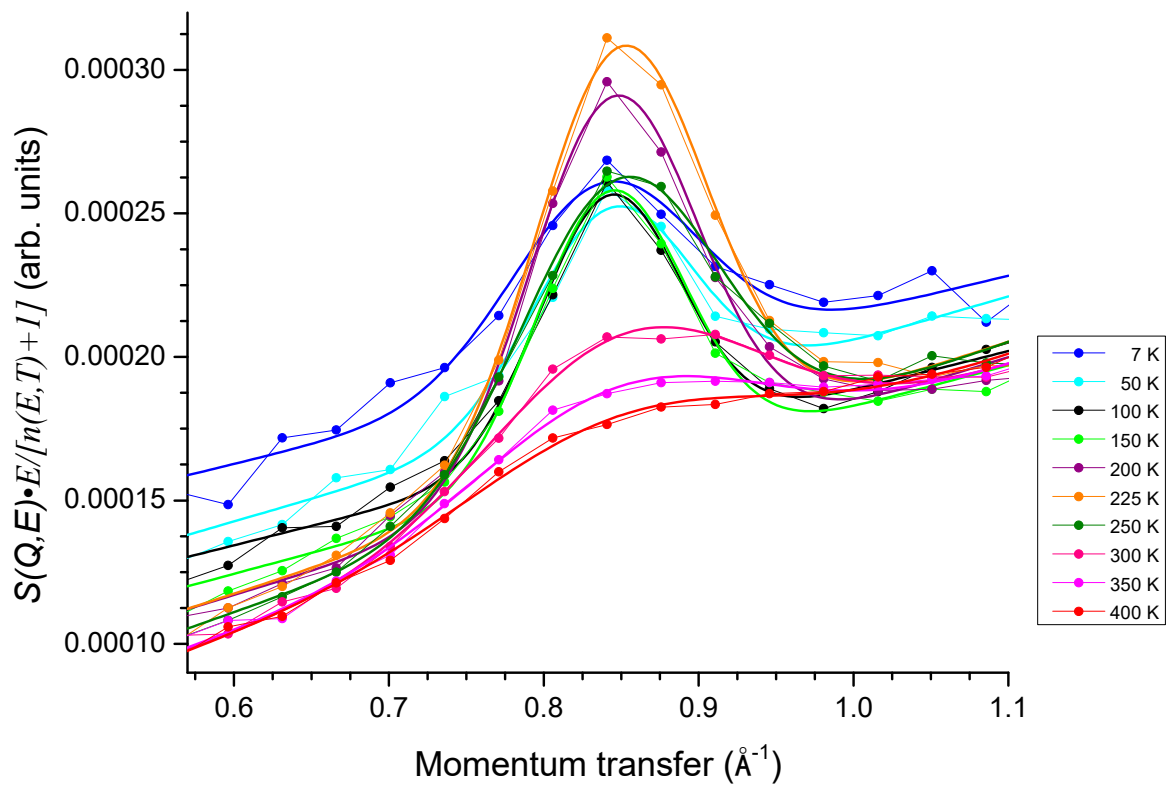


Figure S2. $S(Q,E) \cdot E/[n(E,T)+1]$ intensity of the spin-wave excitations of 15 nm CuO particles at different temperatures obtained from the $S(Q,E)$ spectra measured with $E_i=50$ meV and summed over energy range $E=6$ to 16 meV.

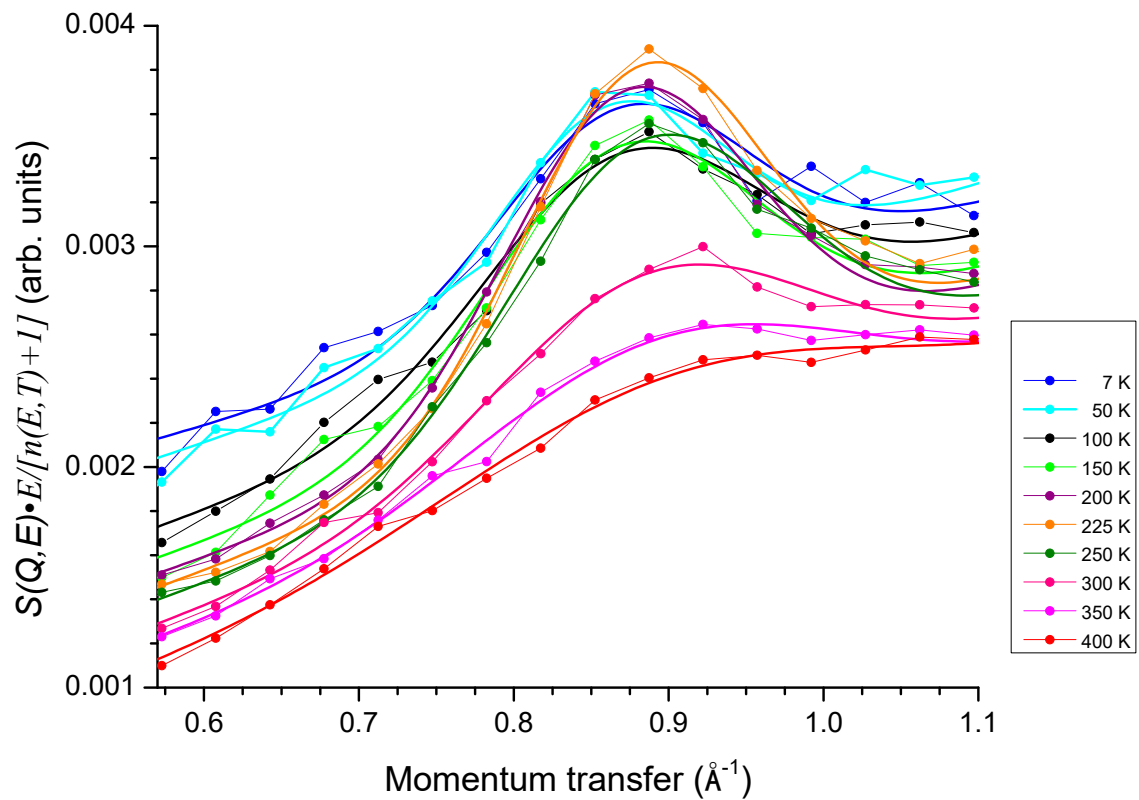


Figure S3. Temperature dependence of the spin-wave excitation intensity of 15 nm CuO particles obtained from the plots in Figs. S3 and S4 as integral intensities of the Gaussian peaks above the sloped background.

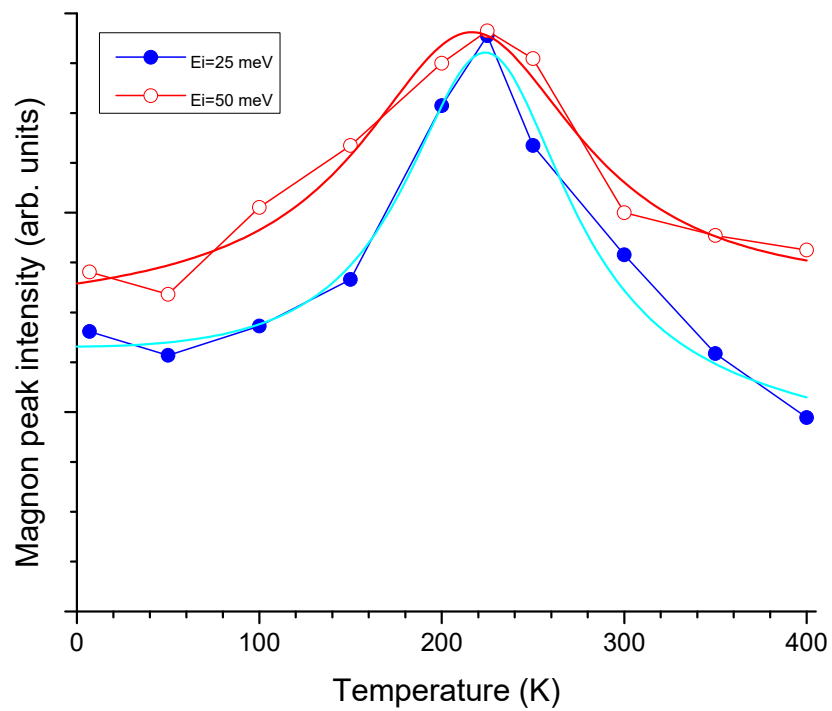


Figure S4. INS spectra for 8 and 25 nm CuO nanoparticles. Both spectra were collected with $E_i = 50$ meV and at $T = 7$ K. The spectra are plotted with the same intensity scale (right).

