

**Title:** Supplementary Movie 1

**Description:** RSM of the CuMnAs 003 Bragg peak. RSMs obtained from a microtwinfree area (left) and from an area with microtwins (right) for viewing angles around the surface normal. The vertical direction is along  $q_{[001]}$ , The isosurface is shown in green and planar projections of the RSM are shown in the two panels.