

# Synthesis and Magnetic Dynamics of Multiferroic Chromates

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We describe the preparation routes for the series of polycrystalline  $ACrO_2$

(A= Cu, Ag, Li, Pd) chromates using a solid-state reaction technique at different temperatures and partly using a two-stage substitution procedure. All samples have been characterized using X-ray and magnetic measurements. In addition, single crystals of  $CuCrO_2$  have been grown by flux method.

$CuCrO_2$  and  $AgCrO_2$  have been investigated using high field Electron-Spin-Resonance spectroscopy and quasi-optical transmittance technique in the frequency range between 70 GHz and 600 GHz. Two eigenmodes of the antiferromagnetic resonance can be detected. Clear signatures of the spin-flop transition are observed for specific magnetic domains in  $CuCrO_2$ .

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