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X-ray and neutron scattering studies of the magnetoelectric DyMn_2O_5 V. KIRYUKHIN, A. BORISSOV, S-W. CHEONG, Rutgers University, W. RATCLIFF II, S.-H. LEE, NIST — Magnetic phase diagram of magnetoelectric DyMn_2O_5 is established using neutron and magnetic x-ray scattering. The magnetic origin of the complex dielectric anomalies in this material is revealed. New diffraction peaks arising due to structural distortion at low temperatures are found and analyzed in the framework of the existing models of the ferroelectric state. Effects of an applied electric field on the magnetic structure are discussed.

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