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Anomalous magnetic after-effect near orientation transition in epitaxial [Fe/Cr(100)]10 multilayers RAUL VILLAR, Universidad Autonoma de Madrid, RUBEN GUERRERO, Universidad Autonoma de Madrid, RAINER SCHAD, University of Alabama, JOSE LUIS MARTINEZ, ICMM-CSIC, FARKHAD ALIEV, Universidad Autonoma de Madrid, UAM TEAM, AU TEAM, ICMM TEAM — Transport and magnetic properties near a field induced orientation transition (OT) from easy to hard axis in magnetization of antiferromagnetically coupled epitaxial $[Fe/Cr(100)]_{10}$ multilayers have been studied down to 1.7K. It was found that in the vicinity of the OT both the amplitude of the magnetic susceptibility anomaly and the relaxation rate of the magnetoresistance change dramatically below a few K. These observations, together with the previously observed strong reduction of zero field magnetic losses at temperatures below 5-7K [1] indicate a qualitative transformation of the magnetic dynamics of antiferromagnetically coupled Fe/Cr multilayers at very low temperatures. [1] F.G. Aliev, et al., Phys. Rev. Lett., v.88, p.187201 (2002).

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