Electronic Supplementary Material (ESI) for Nanoscale Advances.

Perpendicularly magnetized Co/Pd-based magneto-resistive heterostructures on flexible substrates

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Supporting Information

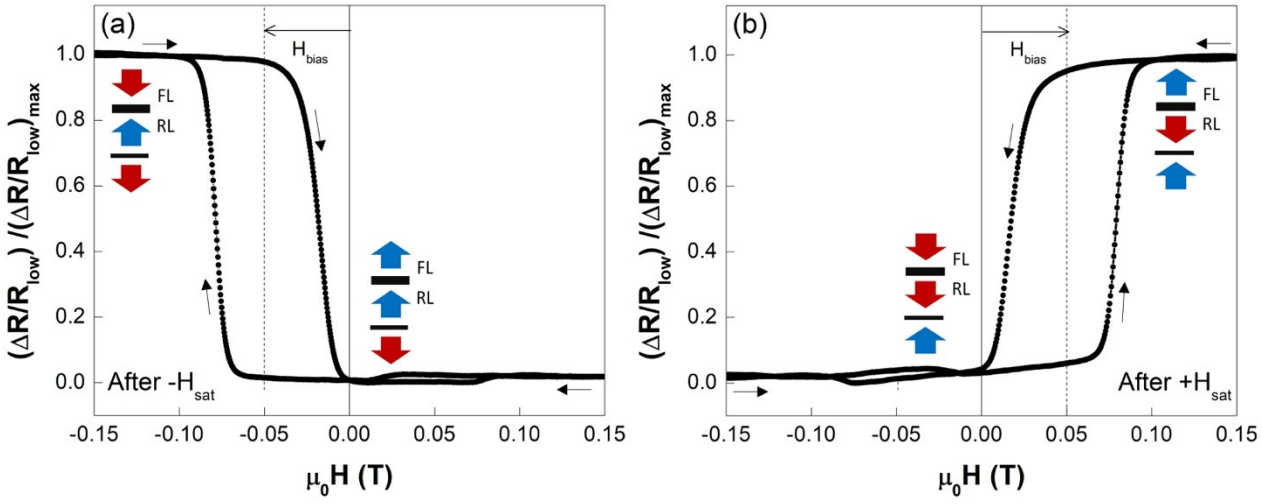

Figure S1. Room temperature field-dependent resistance loops in the low-field region (-0.15 – 0.15 mT) of thin film stacks with t_{Cu} = 2nm deposited on Au/SiO_x/Si(100). Measurements were performed for two opposite magnetic configurations of the SAF obtained by saturating the sample with either a negative (-H_{sat}. panel a) or a positive (+H_{sat}, panel b) saturation field of 1 T. Thin arrows indicate the field swept direction, while the thick arrows illustrate the mutual alignment of the magnetization in the FL, *top*-RL, and *bottom*-RL at different points in the loop. The hysteresis loop of the FL is subjected to a magnetic bias due to its interaction with the *top* SAF-RL whose sign depends on the magnetic configuration of the SAF: when its top layer points inward (outward) the shift is positive (negative).

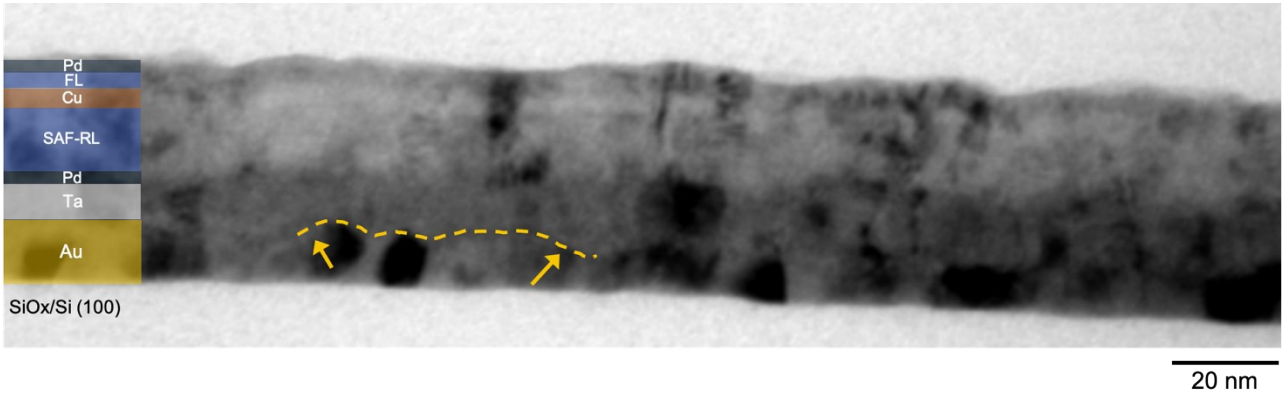

Figure S2. TEM bright field image of a spin-valve stack (t_{Cu} = 3 nm) on Au/SiOx/Si(100). The roughness at the interface between the Au underlayer and the successive Ta layer is clearly visible (yellow arrows and dotted line).

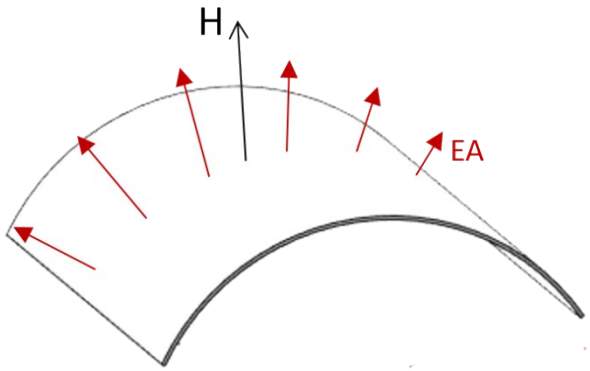

Figure S3. Schematic representation of a bended system with out-of-plane magnetic anisotropy (EA: easy-axis) placed in an uniform magnetic field (*H*). Each region of the sample will experience a different angle with the external magnetic field, which depends on the sample curvature.

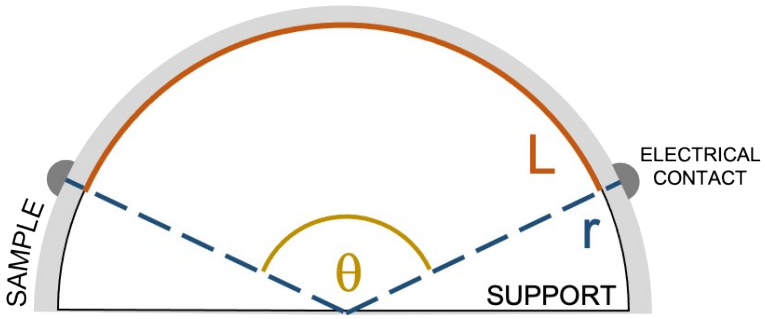

Figure S4. Geometrical definition of the bending angle $\theta\ (^{\circ}) = L \cdot 360/2\pi r$; *r* is the radius of the semi-cylindrical plastic support and *L* is the distance between the electrical contacts along the side of the sample parallel to the bending.