

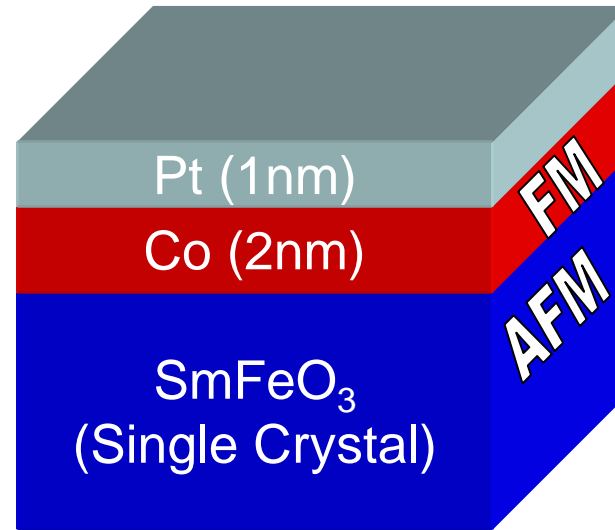
Laser control of spins in a ferromagnet/antiferromagnet system

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SmFeO₃ / Co

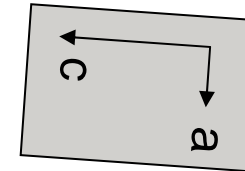


SmFeO₃ :
Spin-reorientation
phase transition at
about 420 – 460 K
 $T_N = 675$ K

Antiferromagnetic axis

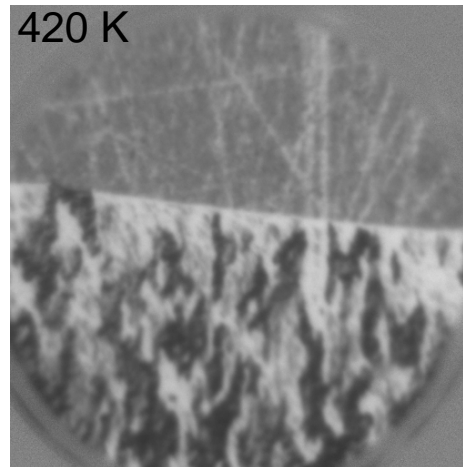
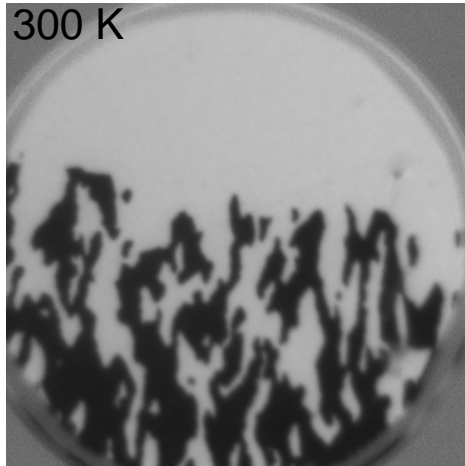
below SPT
above

AFM axis parallel to c
AFM axis parallel to a

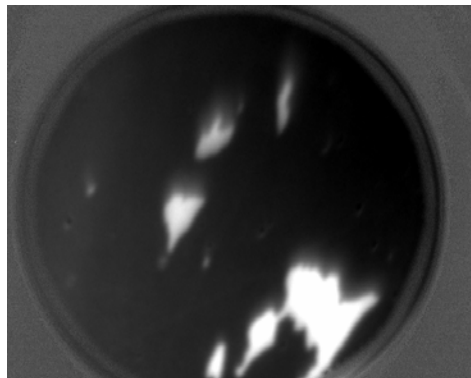


What happens with the ferromagnetic Co?

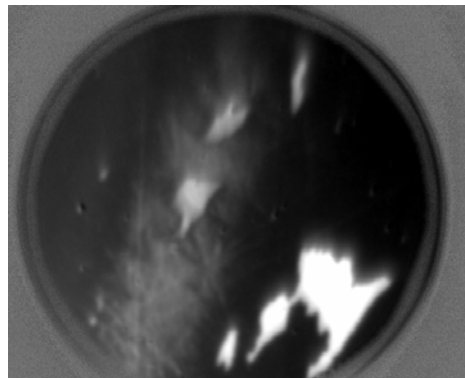
90 degree rotation of Co domains



Conventional heating



Laser off



Laser on

Laser heating

Field of view = 50 micron