Influence of He^+ bombardment on compensation point of RE/TM ferrimagnetic multilayer

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Nowadays, magnetic materials based on RE/TM (Rare Earth-Transition Metal) alloys and multilayers (MLs) of those are widely studied because of their unique properties and possible future implementation in spintronic devices. The most important parameters of RE/TM MLs like the perpendicular magnetic anisotropy (PMA), the compensation point (magnetic moments from both sublattices RE and TM are compensated giving zero net magnetization), and the domination of one sublattice are mainly controlled by temperature and the ratio of RE/TM sublayer thicknesses (t_{RE} and t_{TM}, respectively). Here, we will show that using 10 keV-He^+ ion bombardment we were able to shift the compensation point to thicker RE sublayer compared to unbombarded MLs. Similarly, we found that PMA appears at higher t_{RE} after ion bombardment.

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