Magneto-Optical Kerr Effect in MnTe: Manifestation of Broken Symmetries

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Abstract. Experimental observation of the Magneto-optical Kerr effect (MOKE) in antiferromagnetic MnTe will be reported [1]. From the vantage point of symmetries, a necessary condition for MOKE to occur is that time-reversal symmetry be broken; this is nevertheless not a sufficient condition. Within the domain of collinear magnets, a new class of so called altermagnets has recently been introduced [2] and we will discuss how our observations of hysteretic MOKE in MnTe (which is currently viewed as a prototypical material of this class) corroborate the claims made in this context. Relationship to the anomalous Hall effect [3,4] and x-ray circular magnetic dichroism [5] in the same material will also be mentioned.

REFERENCES

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