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PEAK ENHANCED MAGNETORESISTIVE READ TRANSDUCER

ABSTRACT OF THE DISCLOSURE

An MR read transducer is provided which has a central region located between a pair of end regions. The central region and the pair of end regions extend along a width of the MR read transducer. An MR layer extends along the width of the MR read transducer and has an active layer portion located between a pair of passive layer portions, the active layer portion being located in the central region and each passive layer portion being located in a respective end region. A layer is located in the central region and magnetostatically coupled to the active layer portion of the MR layer for transversely biasing the MR layer. Each passive layer portion of the MR layer is permeable so that it is responsive to externally applied magnetic fields. The passive layer portions of the MR layer are the only permeable portions of the MR read transducer in the end regions of the MR read transducer, so a response by either passive layer of the MR layer to a magnetic signal will result in a supralinearly increased net response of the active portion of the MR layer to the same applied magnetic field signal. This arrangement increases the amplitude and the sharpness of the peak of a signal response of the MR read transducer to the field from a recorded transition.

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