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## Target and Equalizer Design for Perpendicular Heat-Assisted Magnetic Recording

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**Abstract :** Heat-Assisted Magnetic Recording (HAMR) is one of the leading technologies identified to enable areal density beyond 1 Tb/in2 of magnetic recording systems. A key challenge to HAMR designing is accuracy of positioning, timing of the firing laser, power of the laser, thermo-magnetic head, head-disk interface and cooling system. We study the effect of HAMR parameters on transition center and transition width. The HAMR is model using Thermal Williams-Comstock (TWC) and microtrack model. The target and equalizer are designed by the minimum mean square error (MMSE). The result shows that the unit energy constraint outperforms other constraints.

Keywords: heat-assisted magnetic recording, thermal Williams-Comstock equation, microtrack model, equalizer

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