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EQUILIBRIUM AND TEARING STABILITY OF THIN CURRENT LAYERS IN MAGNETIC ARCADES

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The MHD equilibrium of a thin, force-free current layer in a magnetic arcade is solved for analytically. Various approximations are made in order to achieve a lowest order description that is physically relevant as well as mathematically tractable: The arcade is assumed to emanate from "feet" that are well localized, the current emanates from a localized sheet within the feet and is relatively weak. The resulting expressions for B are relatively simple and natural flux coordinates are identifiable. The stability of such a current sheet to resistive filamentation is then investigated.