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Kinking in LPSO Mg-Zn-Y Alloys and Other Layered Materials

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Abstract. Kink band formation (kinking) in layered materials is reviewed. Metal alloys with a long period stacking ordered structure (LPSO) based on Mg-Zn-Y system along with other layered materials demonstrating laminar structure at various scales are put into focus. Despite the variety of layered materials, most of them have common patterns in formation of kinks during deformation. We consider kinking as a specific mechanism of plastic deformation that is illustrated by experimental and theoretical data accumulated in the academic literature during more than five decades of research.

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