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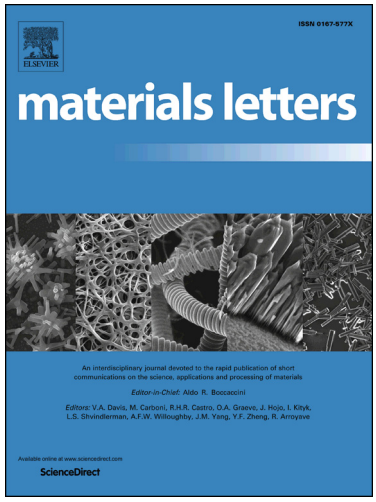

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Nanowires of KP_{15} produced by liquid exfoliation

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Abstract

We report the liquid exfoliation of an anisotropic layered material: KP_{15} to form KP_{15} nanowires with thicknesses up to a few nanometers. Meanwhile, KP_{15} nanowire is the first kind of nanowire that can be prepared by liquid exfoliation. Moreover, sections of the KP_{15} nanowires were irregular and the longitudinal direction of the KP_{15} nanowire is along the direction of the phosphorus tube. Those results may indicate that in-plane phosphorus tubes can also be separated during exfoliation, making the preparation of a few tubes of KP_{15} possible. That could provide a basis for further low dimensional physics research.

Keywords: KP_{15}; liquid exfoliation; nanowires, nanoparticles, multilayer structure