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Influence of ultrasonic power and sonication time on the thickness of MoS_2 2D nanoflakes, prepared via sonophysics technique

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Abstract

In this research, MoS_2 nanoflakes were prepared via the Liquid Phase Exfoliation method by utilizing an ultrasonic probe. We changed the power of our sonicator and the sonication time to investigate their effects on the thickness of obtained flakes. Our findings from UV-Visible Spectra and the SEM images have indicated that the minimum thickness for these samples has been acquired at the power of 65 watts and the optimal irradiation duration is one hour.

Keywords: MoS_2 nanoflakes, Ultrasonic probe power, Irradiation time, Band gap, Thickness of layers.

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