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Patterning of Periodic Ripples in Monolayer MoS_2 by Using Laser Irradiation SUNG HO JHANG, SUNG WON KIM, JEONG HYEON NA, WON LYEOL CHOI, HYUN-JONG CHUNG, Dpartment of Physics, KonKuk Univ, Seoul, SOO HO CHOI, WOOCHUL YANG, Department of Physics, Dongguk Univ, SANG WOOK LEE, Department of Physics, Ewha Womans Univ — We have investigated the effect of laser irradiation on monolayer MoS_2 and observed the swelling-up of the monolayer from the SiO_2 substrate upon laser illumination. The mismatch in the thermal expansion between the substrate and MoS_2 can result in the structural deformation. Employing this method, one can induce structural deformation in a desired pattern, and demonstrate the patterning of periodic ripples in monolayer MoS_2 by using laser irradiation. The controlled fabrication of the ripple structure may be instrumental in understanding the effect of ripples on the interesting properties of monolayer MoS_2.

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