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Spall behavior of Aluminium with Helium Bubbles under Laser Shock Loading. DAWU XIAO, DONGLI ZOU, Institute of Materials, China Academy of Engineering Physics, Mianyang 621700, China, HUA SHU, Institute of Laser, China Academy of Engineering Physics, Mianyang 621700, China, LIFENG HE, Institute of Materials, China Academy of Engineering Physics, Mianyang 621700, China — The spall behaviors of Al-10B alloy targets and neutron irradiated Al-10B alloy targets with 5nm radius helium bubble subjected to direct laser ablation are presented. It is found that the spall strength increases significantly with the tensile strain rate, and the helium bubble or boron inclusions in aluminum reduces the spall strength of materials by 30%. However, slight difference is observed in the spall strength of unirradiated samples compared with the irradiated sample with helium bubbles..

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