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The 6He and 6Li interaction with 12C at energies of 20 50 MeV/nucleon[1] OLEXANDR MOMOTYUK[2], KIRBY KEMPER, The Florida State University, NICHOLAS KEELEY, CEA-Saclay, CEA-Saclay, DSM/DAPNIA/SPhN, Gif-sur-Yvette, France, KRZYSZTOF RUSEK, The Andrzej Soltan Institute for Nuclear Studies, Warsaw, Poland — The elastic scattering data for ^{6}He+^{12}C [1] when plotted on top of similar ^{6}Li+^{12}C data [2] shows that the absorption of ^{6}He is weaker than ^{6}Li, a surprising result since ^{6}He has a much lower binding energy (0.98 MeV) than does ^{6}Li (1.47 MeV). In order to understand the origin of this surprising result the elastic scattering cross sections for ^{6}He and ^{6}Li by ^{12}C in the energy range 20 50 MeV/nucleon were analyzed using coupled reaction channels (CRC) calculations that employed optical potentials of Woods-Saxon type, double-folded (DF) and cluster-folded (CF) potentials. The results of these calculations and possible reasons for the weaker absorption of ^{6}He relative to ^{6}Li will be presented.
[1] V. Lapoux et al Phys. Rev. C 66, 034608 (2002)
[2] A. Nadasen et al Phys. Rev. C 37, 132 (1988) A. Nadasen et al ibid C 37, 674 (1993)

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