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Analysis for 6Li+12C elastic scattering using different potentials

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Experimental angular distributions for the elastic scattering of 6Li projectile on a 12C target have been reanalyzed in the energy range 4.5- 60 MeV. The projectile-target optical potential was calculated phenomenologically with optical model (OM) of Woods-Saxon (WS) potential shape for real and imaginary parts and semi-microscopically using both of double folding approach based on energy dependent São Paulo potential (SPP) and double-folding cluster (DFC) potential. The generated cluster folding potentials is based on the (α -d) structure of 6Li.The theoretical calculations using the different concerned potentials reproduce fairly well the experimental data in the whole energy range.

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