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Studying of the neutron scattering on solitons in low dimensional systems IRINA BARIAKHTAR, APS/Boston College, VICTOR BARIAKHTAR, Insitute of Magnetism, Kyiv, Ukraine — The cross section of the scattering of polarized neutrons by solitons in low dimensional systems is calculated. The authors consider solitons corresponding to the formation of a kink in a system of adatoms on the surface of a substrate, or a crowdion in a chain of atoms in crystals described by the sine-Gordon equation, and also solitons in a bound electron-phonon quasi-one-dimensional molecular chain. It is shown that study of the polarized neutrons provides for the possibility to gather information on the static and dynamic properties of the solitons. Studying of the neutron scattering allows for experimental reconstruction of the magnetic momentum distribution in solitons.

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