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Effect of the tensor force in nuclei

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The tensor force is included in a large amplitude in pion exchange interactions. The importance of the tensor force is known in light nuclei where ab-initio type calculation of nucleus can be made. However the mean field model or the shel model that describe the heavier nuclei do not include the tensor force explicitly. One of the most important effect of the tensor force is the creation of the large momentum nucleons in a nucleus that gives a large binding energy. Recently we have studied a neutron pick up reaction at high energy and observed an evidence of the high momentum component related to the tensor force. Relation between tensor forces and nuclear structure and the new measurement will be presented.

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