

Tel Aviv University , Israel Joint Nuclear Physics Seminar

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Lecture Hall #7, between Shenkar Phys/Chem blds

Experimental evaluation of the nuclear neutron-proton contact

The nuclear neutron-proton contact is introduced, generalizing Tan's work, and evaluated from medium energy nuclear photodisintegration experiments. To this end we reformulate the quasi-deuteron model of nuclear photodisintegration and establish the bridge between the Levinger constant and the contact. Using experimental evaluations of Levinger's constant we extract the value of the neutron-proton contact in finite nuclei and in symmetric nuclear matter. Assuming isospin symmetry we propose to evaluate the neutron-neutron contact through measurement of photonuclear spin correlated neutron-proton pairs.