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Isospin breaking of baryon masses from domain-wall lattice QCD TAKUMI DOI, RIKEN BNL Research Center, TOM BLUM, Univ. of Connecticut, RIKEN BNL Research Center, MASASHI HAYAKAWA, RIKEN, TAKU IZUBUCHI, Kanazawa Univ., RIKEN BNL Research Center, NORIKAZU YAMADA, KEK — In this talk, we present the domain-wall lattice QCD study of the isospin breaking effect on baryon masses, such as proton/neutron mass difference. Using two-flavor dynamical QCD configurations and quenched QED configurations, we study the electromagnetic splitting for baryons. We also explore the strong isospin breaking using the difference of mass between up and down quark as inputs which are determined by meson mass spectroscopy.

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