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## Octet baryon charges with $N_f = 2 + 1$ non-perturbatively improved Wilson fermions

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The axial charge of the nucleon,  $g_A$ , has been computed extensively on the lattice. However, the axial charges for other octet baryons (hyperons) such as the  $\Sigma$  and  $\Xi$  baryons are less well known experimentally and theoretically.

Here we present results for the isovector axial, scalar and tensor charges, as well as for the second Mellin moments of isovector PDFs. This allows us to estimate SU(3) flavour symmetry breaking effects in the different channels. Moreover, the scalar charges are related to the difference between the physical up and down quark masses via the vector Ward identity and we determine this splitting.

Our calculations are performed on a large set of  $N_f = 2 + 1$  CLS ensembles of non-perturbatively  $O(a)$  improved Wilson fermions with tree-level Symanzik improved gauge action. For the computation of the required three-point functions we use a stochastic technique which enables us to simultaneously compute various combinations of currents and octet baryon interpolators.

### Topical area

Structure of Hadrons and Nuclei

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