

## SU(3) breaking effects in hyperon beta decay from lattice QCD

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Abstract: We present results of an exploratory study of SU(3) flavor breaking effects in hyperon beta decays using domain wall fermions. From phenomenological point of view, the various  $g_A/g_V$  in the hyperon beta decays provide vital information on analysis of strange quark spin fraction inside the nucleon. However, SU(3) breaking is simply neglected in such analysis, while sizeable breaking effects are expected. In this talk, we explore SU(3) flavor breaking effects in  $\Xi^0 \rightarrow \Sigma^+$  semileptonic decay, which corresponds to the direct analogue of neutron beta decay under an exchange between down quark and strange quark. We first measure the second-class form factors  $g_2$  and  $f_3$ , which vanish only in the SU(3) flavor-symmetry limit. We finally expose the SU(3) flavor breaking effects on  $g_A/g_V$  up to the first order in breaking.