

## Study of oxygen isotopes at neutron-rich extreme

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One of the goals of nuclear physics is to understand the properties of all of the atomic nuclei including ones with large proton-neutron asymmetry. The nuclear shell structure is a key to understanding the strongly-interacting many-nucleon system and the doubly magic nucleus is a cornerstone for that. The shell structure and magic numbers are well established from the studies of stable nuclei, while the magic numbers can change when the proton and neutron numbers are much different from the stable nuclei. Among the stable and unstable nuclei, the candidates of doubly magic nuclei are very limited. The neutron-rich oxygen isotope  $^{28}\text{O}$  was the only one that is experimentally accessible that had yet to be observed. In the presentation, I will mainly focus on recent experimental study on  $^{28}\text{O}$  and its neighbor  $^{27}\text{O}$ .

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