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The parity-transfer reaction (^{16}O,^{16}F) **for studies of pionic** 0^- **mode** MASANORI DOZONO, Center for Nuclear study, University of Tokyo, SHARAQ08 COLLABORATION — The spin-dipole (SD) 0^- excitation is an important topic in the study of spin-isospin responses in nuclei. Because the 0^- excitation carries the same quantum number as a pion, its strength distribution is expected to reflect pion-like correlations in nuclei such as tensor correlations. Despite this importance, experimental information on 0^- states is very limited because of a lack of experimental tools that are suitable for 0^- studies. we propose a new probe, a parity-transfer (^{16}O, ^{16}F(0^-)) reaction for 0^- studies. The parity-transfer reaction uses $0^+ \rightarrow 0^-$ transition in the projectile to probe 0^- states in a target nucleus. This reaction has unique sensitivity to unnatural parity states, which is an advantage over other reactions used so far. For the first parity-transfer measurement, we performed a ^{12}C(^{16}O, ^{16}F(0^-))^{12}B experiment at the RIKEN RIBF facility by using a SHARAQ spectrometer. In this presentation, we will report the details of the experiment and the results.

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