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## Chiral Symmetry in Nuclear Medium Observed in Pionic Atoms

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We have deduced an order parameter of the chiral symmetry in nuclear medium by making precision spectroscopy of pionic Sn 121 atoms at the RIKEN RIBF. The binding energies and widths of the pionic states were measured, and the pion-nucleus interaction was accurately determined. The in-medium interaction exhibited enhanced isovector repulsive interaction due to the medium effect. Further analyses showed that the enhancement is due to the partial restoration of the chiral symmetry in the nucleus. We deduced that the chiral condensate at nuclear saturation density is reduced by a factor of  $60 \pm 3\%$  (T. Nishi, K. Itahashi et al., *Nature Phys.* (2023) doi:10.1038/s41567-023-02001-x). We also discuss the future plans to derive the density dependence of the chiral condensate.

### Funding Agency

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