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Title: **Fingerprints of Neutron Proton Pairing at High Angular Momenta**

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The study of high spin states has since long been one of the most powerful tools in the study of nuclear structure. The recent advance in nuclear spectroscopy has paved the way to access heavy N=Z nuclei. Since the neutron and proton wave functions are essentially degenerate in these nuclei, one may expect proton-neutron correlations to become important. The quest for proton-neutron pairing has been a long standing issue in nuclear structure. The importance of proton-neutron correlations for the backbending frequencies, the moments of inertia as well as the structure of two quasi-particle states in heavy N=Z nuclei will be reviewed. Analogies with the superfluid phases in He3 are discussed.

Invited talk.