



Contribution ID: 56

Type: **Invited**

## PROTON-NEUTRON PAIRING AND ALPHA-LIKE QUARTET CORRELATIONS IN NUCLEI

*Thursday, 16 May 2019 17:00 (30 minutes)*

The common treatment of proton-neutron (pn) pairing in  $N = Z$  nuclei relies on Cooper pairs and HFB-type models. However, in these nuclei the pn interaction generates quartet correlations of alpha type which compete with the Cooper pairs. In fact, for any  $T=0$  and  $T=1$  pairing interactions the ground state of  $N = Z$  systems is accurately described not by Cooper pairs but in terms of collective quartets [1-8]. Alpha-like quartets are relevant degrees of freedom for treating also more general two-body interactions than pairing [9-11]. From this perspective, I will discuss how the quartetting is affecting the competition between the  $T=0$  and  $T=1$  pn pairing correlations in nuclei as well as the contribution of pairing to the Wigner energy.

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**Session Classification:** Session XX (Parallel Session)