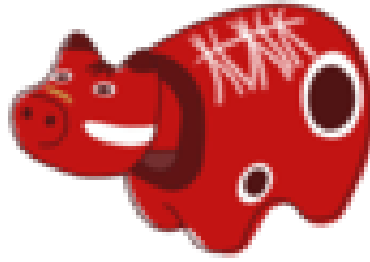


Single-particle and collective motions from nuclear many-body correlation (PCM2025)



Contribution ID: 12

Type: **not specified**

PARTICLE-VIBRATION COUPLING AND PAIRING CORRELATIONS

Tuesday, 4 March 2025 15:05 (20 minutes)

I will present results concerning the effects of particle-vibration coupling (PVC), a topic to which Ikuko Hamamoto gave fundamental contributions.

I will discuss how to determine the PVC strength, in particular through the study of multiplet splittings.

I will then present quantitative microscopic calculations of the strength function associated with pairing modes in $A+2$ nuclei going beyond the RPA by including the coupling to collective excitations of closed shell A core, including continuum effects. The formalism accounts both for single-particle self-energy effects and for the pairing interaction induced by phonon exchange. Such studies are relevant for the experimental searches of collective high-lying pairing vibration, whose existence was predicted but not yet experimentally confirmed.

Type of contribution

Are you a student or postdoc?

no

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Session Classification: Session #3