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## Study of Quadrupole Correlations in the 106,108 Sn Isotopes via Lifetimes Measurements

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The shell structure of nuclei with few nucleons outside the double-shell closure  $Z=N=50$  has attracted a large interest. Several studies were performed in this region to examine the robustness of the proton shell closure when  $N=50$  is approached.

The excitation energy of the  $2+$  states in the Sn isotopes as well as the reduced transition probabilities  $B(E2; 2+ \rightarrow 0+)$  provide a clear evidence of the shell evolution along the whole isotopic chain.

The systematic of the first  $2+$  state excitation energy is well known and the behaviour is rather constant along all the Sn isotopic chain; on the contrary the information on the reduced transition probabilities for the neutron-deficient Sn isotopes suffer from large experimental uncertainties which makes the interpretation of the shell evolution controversial.

### Summary

During the AGATA campaign at GANIL, the region in the vicinity of  $Z=N=50$  has been investigated in order to obtain higher precision measurement of the  $B(E2; 2+ \rightarrow 0+)$  and also a first measurement of the  $B(E2; 4+ \rightarrow 2+)$  for 106-108Sn, populated in a multi-nucleon transfer reaction.

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