

The Spectroscopic study of ^{33}Ar

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The proton-rich nucleus ^{33}Ar has been produced at the low-energy facility of SPIRAL at GANIL. Spectroscopic studies of gamma and p emission of this nucleus were performed with the “Silicon Cube” detection system. The analysis of proton and gamma singles and coincidence spectra allowed to establish a complete decay scheme of this nucleus. The comparison of the Gamow-Teller strength distribution deduced from our experiment and the theoretical one obtained with the Shell Model permitted the determination of a quenching factor for the Gamow-Teller strength.