

The level scheme of ^{110}Ag from the (n, γ) reaction

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The investigation of doubly odd nuclei around closed proton shell $Z=50$ produced in (n, γ) reaction has been carried on in the past years. The level scheme of $^{110}_{47}\text{Ag}_{63}$ has been studied with (n, γ) reaction⁽¹⁾. Secondary γ -rays in the energy range 35 to 2000 keV were measured with the bent crystal spectrometers at Risø and Grenoble and in the energy range 10 to 110 keV with a Si(Li) detector at Gatchina. The conversion electron spectrum in the energy region 20 to 650 keV has been measured with the electron spectrometer EILL, Grenoble. The primary γ -rays were measured with the pair-spectrometers at Jülich and Grenoble. Prompt γ - γ coincidences were studied with two Ge(Li) detectors at spectrometers in Gatchina and Jülich in the energy regions 15-600 and 50-700 keV, respectively.

The new level scheme on ^{110}Ag is presented containing 56 levels⁽³⁾. 14 new levels were introduced with a rather complicated cascade with strong γ -transitions populating the long-lived isomeric state at 117.5 keV ($T_{1/2} = 250$ d). This cascade was obtained on the basis of γ - γ coincidence data from Gatchina⁽²⁾.

Beside the lowest proton (cluster)-neutron multiplet given in Ref.1, we have tried to identify the higher lying proton (cluster)-neutron multiplets as well as to generalize the transitions inside the proton-neutron multiplets to the transitions inside the cluster-neutron multiplets.

References

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