ON THE DECAY OF ^{90}Nb, $^{89m,89}Nb$, $^{85m,85}Y$ AND ^{85m}Sr

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The sources of Nb, Y and Sr were obtained by irradiating Mo, $SrCl_2$ or Nb, and Y_2O_3, respectively, with 660 MeV or 120 MeV protons using the following chemical seperation. The single gamma-spectra were investigated using 6 and 10 cm^3 Ge(Li) detectors.

About 34 γ-rays assigned to ^{89}Nb; 34 γ-rays-to ^{85m}, ^{85}Y and 2 γ-rays-to ^{85m} Sr were observed. The γ-γ coincidences of ^{90}Nb were measured using the two-dimensional spectrometer with a pair of 10 cm^3 or 30 cm^3 Ge(Li)-crystals.

On the basis of obtained results, the following levels of ^{90}Zr, ^{89}Zr and ^{85}Sr were proposed:

^{90}Zr: $0(0^+)$; $1760,7$ (0^+); $2186,2$ (2^+); $2318,6$ (5^-); $2740,7$ (3^-); 3077 (4^+); $3447,7$ (6^+); $3589,2$ (8^+); 3975 (5^-); 4232 $(6\ 7)^-$; 4542 $(7^-6^-6^+)$; 5060 $(7\ 8)^+$; 5164 $(8\ 7)^+$; 5288 $(9^{\pm}8^-)$; 5330 $(7,8)^{\pm}$; 5377 $(7,8)^{\pm}$; 5432 $(8\ 7)^+$; 5465 $(9^{\pm}8^-)$; 5674 $(9^{\pm}8^-)$.

^{89}Zr: $0(9/2^+)$; $587,6$ $(1/2^-)$; 1094 $(3/2^-)$; $1449,6$ $(5/2^-)$; $1511,5$ $(9/2^+)$; $1627,0$ $(5/2^+)$; $1833,1$ $(5/2^+)$; 2102 $(7/2\ 9/2\ 11/2)^{\pm}$; $2128,1$ $(7/2\ 9/2\ 11/2)^{\pm}$; 2573 $(7/2\ 9/2\ 11/2)^+$; 2612 $(7/2\ 9/2\ 11/2)^{\pm}$; $2754,0$ $(11/2\ 9/2\ 7/2)^{\pm}$; 2926 $(11/2\ 7/2\ 9/2)^{\pm}$; 2960 $(7/2\ 9/2)^+$; 2983 $(7/2\ 9/2\ 11/2)^{\pm}$; 3016 $(7/2\ 9/2\ 11/2)^{\pm}$; $3092,8$ $(7/2\ 9/2)^+$; 3471 $(7/2\ 9/2\ 11/2)^+$; $3511,3$ $(9/2\ 11/2)^+$; 3559 $(7/2\ 9/2\ 11/2)^+$; 3576 $(7/2\ 9/2)^+$; 3911 $(7/2\ 9/2\ 11/2)^+$ and 3917

^{85}Sr: $0(9/2^+)$; 232 $(7/2^+)$; 239 $(1/2^-)$; 742 $(3/2^-)$; 768 $(5/2^+)$; 1154 $(3/2^-)$; 1364 $(5/2^-;\ 3/2^+)$; 1797 $(5/2^+)$; 1935 $(7/2\ 9/2\ 11/2)^+$; 2123 $(7/2,9/2)^+$; 2173 $(7/2\ 9/2)^+$; 2584 $(7/2\ 9/2)^+$; 2745 $(7/2\ 9/2\ 11/2)^+$; 2786 $(7/2\ 9/2)^+$; 3266 $(7/2\ 9/2\ 11/2)^+$.