

$^1\text{H}(^{102}\text{Cd}, ^{100}\text{Cd}\gamma)$  2018Co07

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 172, 1 (2021)	31-Jan-2021

Also includes  $\text{C}(^{102}\text{Cd}, ^{100}\text{Cd}\gamma)$ .

2018Co07:  $E=144$  MeV/nucleon  $^{102}\text{Cd}$  beam produced in  $^9\text{Be}(^{124}\text{Xe}, X)$ ,  $E=345$  MeV/nucleon reaction, followed by separation of fragments using BigRIPS separator at RIBF-RIKEN facility. Measured  $E\gamma$ ,  $I\gamma$ , particles, (particle) $\gamma$ -coin, two-neutron knockout  $\sigma$  using carbon and  $\text{CH}_2$  targets, and DALI2 array for  $\gamma$  detection and ZeroDegree spectrometer for particles. Deduced first  $2^+$  and  $4^+$  levels in  $^{100}\text{Cd}$ . Comparison with shell-model calculations.

 $^{100}\text{Cd}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	Comments
0	$0^+$	Inclusive measured $\sigma=11.7$ mb $6$ for hydrogen and 8.9 mb $3$ for carbon (2018Co07).
1004 15	$2^+$	Measured $\sigma=3$ mb $1(\text{stat}) + 0-3(\text{syst})$ (2018Co07).
1764 20	$(4^+)$	Measured $\sigma=2.7$ mb $6(\text{stat}) + 0-3(\text{syst})$ (2018Co07).
1930? 20	$(2^+)$	E(level): this level may be the second $2^+$ state, but statistics for $\gamma\gamma$ -coin were too low to make a definite assignment. The $1930\gamma$ could feed the first $2^+$ and $4^+$ states, but then the latter states would not be fed directly, an unlikely scenario. E(level): listed as 1930+x in 2018Co07. Measured $\sigma=3$ mb $3$ (2018Co07).

<sup>†</sup> From Adopted Levels.

 $\gamma(^{100}\text{Cd})$ 

$E_\gamma$	$E_i(\text{level})$	$J^\pi_i$	$E_f$	$J^\pi_f$
760 15	1764	$(4^+)$	1004	$2^+$
1004 15	1004	$2^+$	0	$0^+$
1930 <sup>†</sup> 20	1930?	$(2^+)$	0	$0^+$

<sup>†</sup> Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

-----►  $\gamma$  Decay (Uncertain)

