^{100}Mo(^{65}Cu,3nγ):SD 2003Br03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Additional information 1.

^{100}Mo(^{65}Cu,3nγ), E(^{65}Cu)=260 MeV. 600 μg/cm^2-thick self-supporting ^{100}Mo foil target. Measured Eγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO) using the GASP array consisting of 40 Compton-suppressed Ge detectors combined with an inner ball of 80 BGO detectors. Deduced the existence of three triaxial superdeformed bands.

The only data shown by 2003Br03 are the Eγ values on drawings of summed double-gated γ-ray coincidence spectra.

^{162}Lu Levels

E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†	E(level)	J$^\pi$†
u#	J1	6720.0+u#	J1+18	4254.6+v@	J2+14	2674.2+w&	J3+8
508.0+u#	J1+2	7747.7+u#	J1+20	5096.4+v@	J2+16	3490.0+w&	J3+10
1072.2+u#	J1+4	v@	J2‡	5992+v@	J2+18	4360.0+w&	J3+12
1699.2+u#	J1+6	420.4+v@	J2+2	6943+v@	J2+20	5281.6+w&	J3+14
2388.5+u#	J1+8	906.1+v@	J2+4	7946+v@	J2+22	6246.8+w&	J3+16
3139.6+u#	J1+10	1455.4+v@	J2+6	w&	J3	7247.6+w&	J3+18
3950.6+u#	J1+12	2066.6+v@	J2+8	578.3+w&	J3+2	8283.1+w&	J3+20
4819.4+u#	J1+14	2738.0+v@	J2+10	1217.1+w&	J3+4	9344.6+w&	J3+22
5742.3+u#	J1+16	3467.9+v@	J2+12	1916.3+w&	J3+6		

† The 420.4 transition in the triaxial superdeformed (SD)−2 band is assigned by 2003Br03 as the $17^+\rightarrow15^+$ transition, by analogy with the triaxial SD-6 band in ^{164}Lu. From $\gamma\gamma(\theta)$(DCO) data, all the other intraband transitions were found to be stretched quadrupoles. However, the results of such measurements are not given by 2003Br03.

‡ 2003Br03 suggest $J^\pi=15^+$, based on possible similarity with the situation in ^{164}Lu.

Band(A): Triaxial superdeformed band (SD-1) (2003Br03). Percent population=1.3. Transitions in this band are similar in energy to those in the triaxial SD-6 band in ^{164}Lu; and are in coin with the 160.5, 195.5, 233.8, 276.6 and 356.0 transitions in the normal-deformed structures.

@ Band(B): Triaxial superdeformed band (SD-2) (2003Br03). Percent population=0.9. Transitions in this band are similar in energy to those in the triaxial SD-3 band in ^{164}Lu. On this basis, the 420.4 transition is proposed (by 2003Br03) as the $17+\rightarrow15^+$ transition. The 485.7 transition in this band is in coin with the 160.5, 195.5, 233.8, 276.6 and 356.0 transitions in the normal-deformed structures.

& Band(C): Triaxial superdeformed band (SD-3) (2003Br03). Percent population=0.2. Transitions in this band are similar in energy to those in the triaxial SD-4 band in ^{164}Lu and are in coin coin with the 160.5, 195.5, 233.8, 276.6, 356.0 and 510.8 transitions in the normal-deformed structures.

$\gamma(^{162}Lu)$

Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
420.4	420.4+v	J2+2	v	J2	689.3	2388.5+u	J1+8	1699.2+u	J1+6
485.7	906.1+v	J2+4	420.4+v	J2+2	699.2	1916.3+w	J3+6	1217.1+w	J3+4
508.0	508.0+u	J1+2	u	J1	729.9	3467.9+v	J2+12	2738.0+v	J2+10
549.3	1455.4+v	J2+6	906.1+v	J2+4	751.1	3139.6+u	J1+10	2388.5+u	J1+8
564.2	1072.2+u	J1+4	508.0+u	J1+2	757.9	2674.2+w	J3+8	1916.3+w	J3+6
578.3	578.3+w	J3+2	w	J3	786.7	4254.6+v	J2+14	3467.9+v	J2+12
611.2	2066.6+v	J2+8	1455.4+v	J2+6	811.0	3950.6+u	J1+12	3139.6+u	J1+10
627.0	1699.2+u	J1+6	1072.2+u	J1+4	815.8	3490.0+w	J3+10	2674.2+w	J3+8
638.8	1217.1+w	J3+4	578.3+w	J3+2	841.8	5096.4+v	J2+16	4254.6+v	J2+14
671.4	2738.0+v	J2+10	2066.6+v	J2+8	868.8	4819.4+u	J1+14	3950.6+u	J1+12

Continued on next page (footnotes at end of table)

^{100}Mo(^{65}Cu,3nγ):SD 2003Br03 (continued)

$\gamma(^{162}Lu)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	E_i(level)	J_i^π	E_f	J_f^π
870.0	4360.0+w	J3+12	3490.0+w	J3+10	977.7	6720.0+u	J1+18	5742.3+u	J1+16
896	5992+v	J2+18	5096.4+v	J2+16	1000.8	7247.6+w	J3+18	6246.8+w	J3+16
921.6	5281.6+w	J3+14	4360.0+w	J3+12	1002.5	7946+v	J2+22	6943+v	J2+20
922.9	5742.3+u	J1+16	4819.4+u	J1+14	1027.7	7747.7+u	J1+20	6720.0+u	J1+18
951.2	6943+v	J2+20	5992+v	J2+18	1035.5	8283.1+w	J3+20	7247.6+w	J3+18
965.2	6246.8+w	J3+16	5281.6+w	J3+14	1061.5	9344.6+w	J3+22	8283.1+w	J3+20

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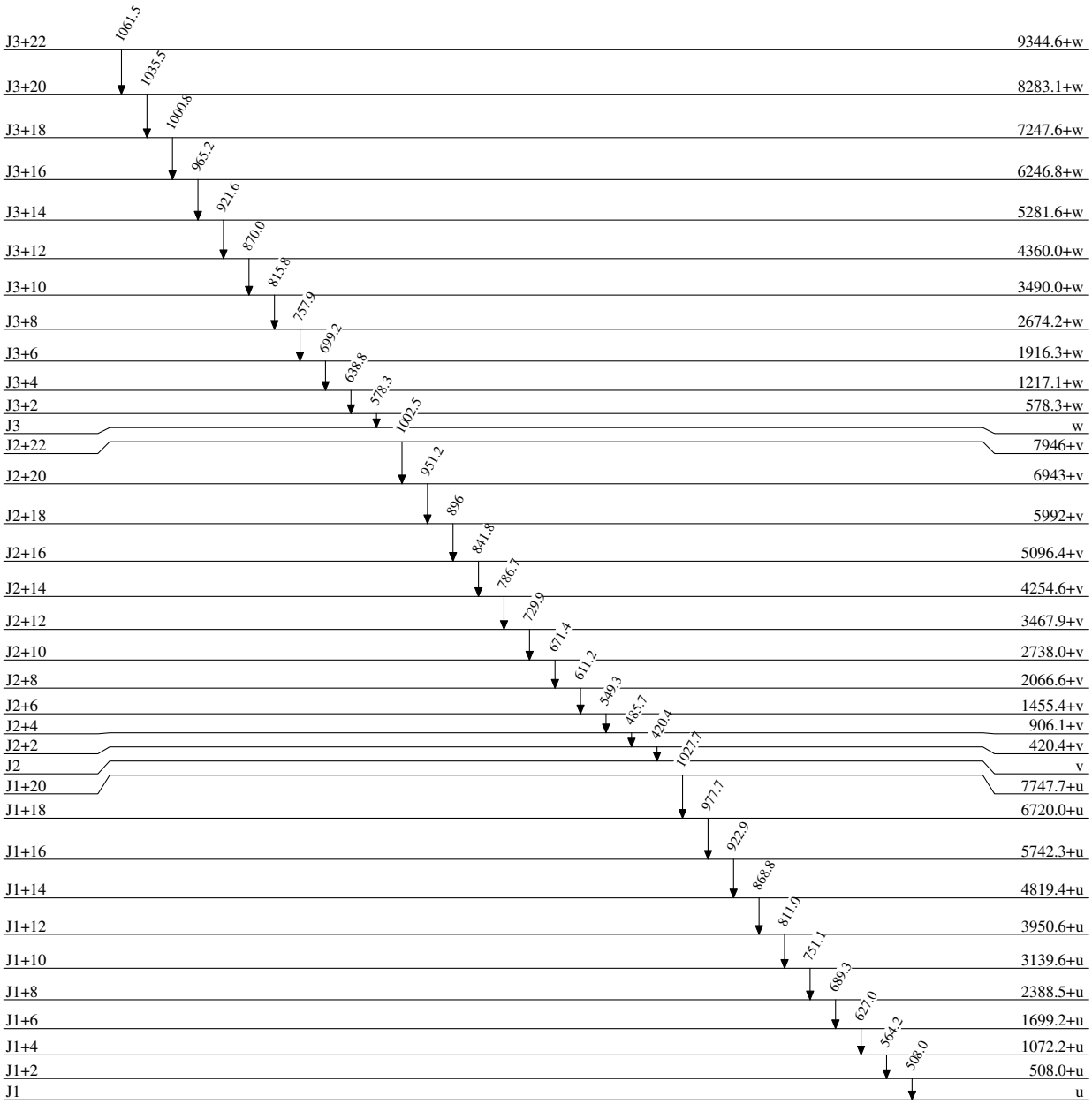
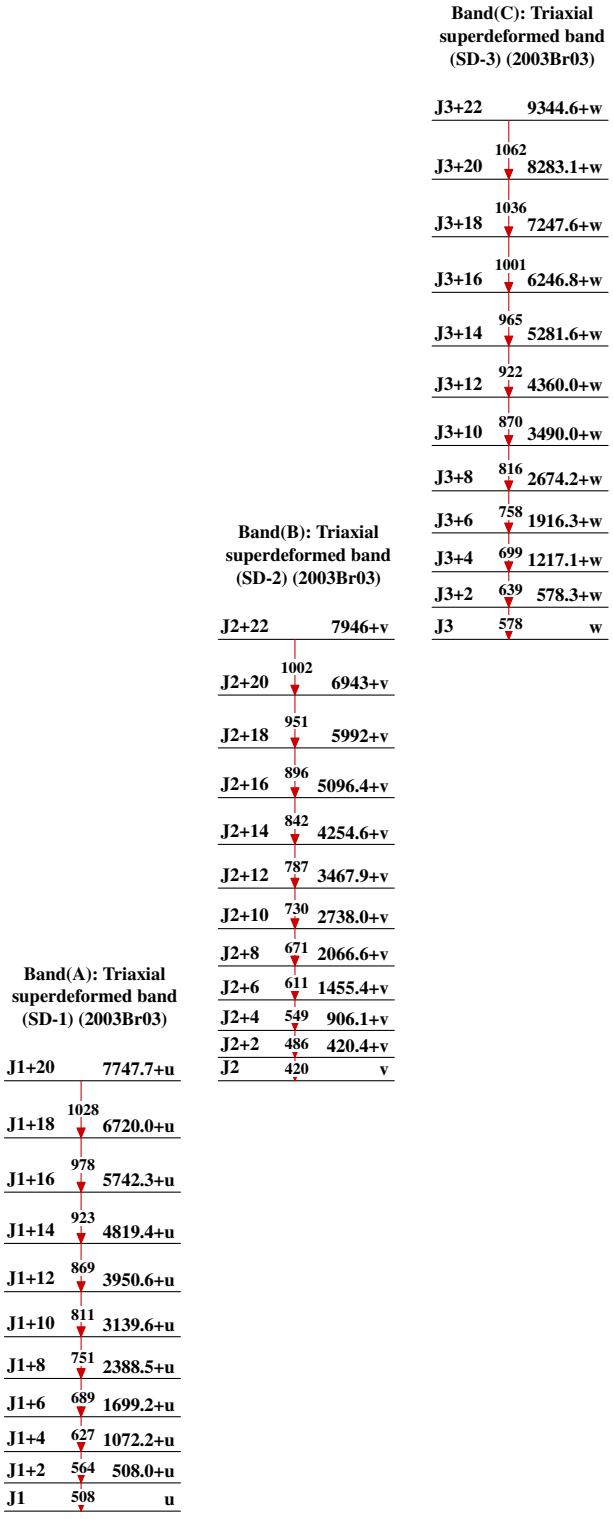
Level Scheme



$^{162}_{71}Lu_{91}$

^{100}Mo(^{65}Cu,3nγ):SD 2003Br03



$^{162}_{71}Lu_{91}$