^{187}Re(^{3}He,d) 2010Ph01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Juutinen, D. J. Hartley	NDS 150, 1 (2018)	1-Feb-2018

E=30 MeV provided by the tandem accelerator at Maier Leibnitz lab in Garching. 98.7% enriched, 82 μg/cm^2 thick ^{187}Re target on 19 μg/cm^2 thick ^{12}C foil. The deuteron spectra analyzed by Q3D magnetic spectrograph. Measured deuteron spectra, angular distributions from 5° to 50°. DWBA analysis of $\sigma(\theta)$ data. FWHM=6.3 to 13.0 keV. Quasiparticle phonon model calculations.

Other: 2000BuZU.

J^π(^{187}Re g.s.)=5/2$^+$.

^{188}Os Levels

E(level)[†]	J$^\pi$[†]	L	S[‡]	Comments
0[#]	0$^+$	2	0.26 *8*	From Quasiparticle phonon model calculations. Dominant configuration (π5/2[402],π5/2[402])=1.3 *4* (expt), compared with the predicted value of 1.
155[#]	2$^+$			
478[#]	4$^+$			
633[@]	2$^+$	0	0.14 *4*	From Quasiparticle phonon model calculations, squared amplitude of two quasiparticle configuration π^2(5/2[402],1/2[400])=0.28 *8* (expt) compared to the predicted value of 0.10.
790[@]	3$^+$			
966[@]	4$^+$			
1086[&]	0$^+$			
1279[a]	4$^+$	2	0.26 *8*	From Quasiparticle phonon model calculations, squared amplitude of two quasiparticle configuration π^2(5/2[402],3/2[402])=0.27 *9* (expt) compared to the predicted value of 0.32.
1305[&]	2$^+$			
1414	(3$^-$)			
1516[a]	5$^+$			

[†] From the Adopted Levels. Rounded energy values are given.

[‡] S=(dσ/dΩ)expt/[N(dσ/dΩ)(DWBA)]. A 30% systematics uncertainty is included by the authors.

[#] Band(A): K^π=0$^+$, g.s. band.

[@] Band(B): K^π=2$^+$, γ-vibrational band.

[&] Band(C): K^π=0$^+$ band.

[a] Band(D): K^π=4$^+$ band. configuration=π^2(3/2[402],5/2[402]).

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Band(D): $K^{\pi}=4^{+}$ band

5^{+} 1516

Band(C): $K^{\pi}=0^{+}$ band

2^{+} 1305

4^{+} 1279

0^{+} 1086

Band(B): $K^{\pi}=2^{+}$, γ-vibrational band

4^{+} 966

3^{+} 790

2^{+} 633

Band(A): $K^{\pi}=0^{+}$, g.s. band

4^{+} 478

2^{+} 155

0^{+} 0

$^{188}_{76}Os_{112}$