

$^{72}\text{Ge}(\alpha,\alpha')$  1987Sc31

Type	Author	History	Citation	Literature Cutoff Date
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**1987Sc31:** E=31.5 MeV, FWHM=15-20 keV; measured  $\sigma(\theta)$ , DWBA calculations with vibrational form factors. Deduced  $\beta_R$  values.

**1988Ba70:** E=25 MeV, FWHM=100-200 keV for the first  $2^+$  and  $3^-$  states, poorer for higher-lying states; measured  $\sigma(\theta)$ , coupled-channels calculations assuming the harmonic vibrational model and the asymmetric rotor model.

**1989Ro12:** E=36 MeV, FWHM $\approx$ 20 keV; measured  $\sigma(\theta)$ , coupled- channels calculations in the framework of the harmonic and anharmonic vibrational model and the asymmetric rotor model.

 $^{72}\text{Ge}$  Levels

E(level)	$L^\dagger$	Comments
0.0		
831 <i>10</i>	2	$\beta_2=0.190$ (harmonic vibrational model, <a href="#">1989Ro12</a> ). $\beta_2R=1.078$ (harmonic vibrational model) and $-1.136$ (asymmetric rotor model) ( <a href="#">1988Ba70</a> ).
1464 <i>10</i>	2	
1725 <i>10</i>	(4)	
2514 <i>10</i>	3	$\beta_3=0.230$ ( <a href="#">1989Ro12</a> ). $\beta_3R=0.907$ ( <a href="#">1988Ba70</a> ).
2938 <i>10</i>	3+5	
3024 <sup>#</sup> <i>10</i>		
3062 <i>10</i>	4	
3086 <i>10</i>	(2)	
3124 <sup>‡</sup> <i>10</i>		
3131 <i>10</i>	(4)	
3317 <sup>#</sup> <i>10</i>		
3394 <i>10</i>	5	
3409 <i>10</i>	3	
3511 <i>10</i>	4	
3536 <i>10</i>	1	
3551 <i>10</i>	(3)	
3574 <sup>@</sup> <i>10</i>		
3644 <i>10</i>	(4)+(6)	
3657 <i>10</i>	(3)	
3722 <i>10</i>	3	
3769 <i>10</i>	(2)	
3809 <i>10</i>	(5)	
3834 <i>10</i>	4	
3859 <sup>@</sup> <i>10</i>		
3879 <sup>‡</sup> <i>10</i>		
3892 <i>10</i>	(3)	
3936 <sup>@</sup> <i>10</i>		
3954 <i>10</i>	3	
3986 <sup>@</sup> <i>10</i>		
4004 <sup>‡</sup> <i>10</i>		
4031 <i>10</i>	5	
4046 <i>10</i>	(4)	
4064 <i>10</i>	5	
4131 <i>10</i>	4	
4149 <sup>‡</sup> <i>10</i>		
4179 <sup>‡</sup> <i>10</i>		
4216 <i>10</i>	3	
4257 <i>10</i>	(3)	

Continued on next page (footnotes at end of table)

$^{72}\text{Ge}(\alpha, \alpha')$  1987Sc31 (continued) $^{72}\text{Ge}$  Levels (continued)

<u>E(level)</u>	<u>L<sup>†</sup></u>	<u>E(level)</u>	<u>L<sup>†</sup></u>	<u>E(level)</u>	<u>L<sup>†</sup></u>	<u>E(level)</u>	<u>L<sup>†</sup></u>
4269 <i>10</i>	3	4534 <i>10</i>	3	4659 <i>10</i>	(4)	4804 <i>10</i>	(4)
4369 <i>10</i>	3	4572 <i>10</i>	(3)	4676 <i>10</i>	(4)	4874 <i>10</i>	(4)
4424 <i>10</i>	(1)	4601 <sup>‡</sup> <i>10</i>		4696 <i>10</i>	(4)	4899 <i>10</i>	(4)
4446 <sup>‡</sup> <i>10</i>		4614 <sup>@</sup> <i>10</i>		4724 <i>10</i>	(3)	4926 <sup>@</sup> <i>10</i>	
4498 <i>10</i>	3	4634 <i>10</i>	(5)	4766 <i>10</i>	(4)		

<sup>†</sup> From DWBA analysis.

<sup>‡</sup> Possible multiplet from structureless  $\sigma(\theta)$ .

<sup>#</sup>  $\sigma(\theta)$  can not be adequately described by DWBA calculation.

<sup>@</sup> Weak excitation, no complete  $\sigma(\theta)$  obtained.