

$^{204}\text{Pb}(\alpha, \alpha')$  1971GrXR, 1981Ba45

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. J. Chiara and F. G. Kondev		NDS 111,141 (2010)	1-Oct-2009

**1971GrXR:**  $E(\alpha)=45.5$  MeV; magnetic spectrometer,  $\text{FWHM}\approx 60$  keV estimated from spectrum by evaluators; measured  $\sigma(\theta)$ . Distorted-wave calculations.

**1981Ba45:**  $\text{PbCl}_2$  target enriched to  $>99\%$   $^{204}\text{Pb}$ ,  $28.2 \mu\text{g}/\text{cm}^2$  thickness;  $E(\alpha)=27$  MeV; annular surface-barrier detector for  $E(\alpha')$  at  $171^\circ$  in lab frame,  $\text{FWHM}=40$  keV, magnetic spectrograph for  $\alpha'(\theta)$ . Coupled-channels analysis.

 $^{204}\text{Pb}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	L <sup>#@</sup>	Comments
0	$0^+$		
899	$2^+$	2	E(level): From <a href="#">1981Ba45</a> ; strongly excited in <a href="#">1971GrXR</a> . $\beta_2=0.039$ from coupled-channels analysis ( <a href="#">1981Ba45</a> ); other: <a href="#">1967Al14</a> .
1270			
1350			
1560			
1660			
1820			
2180			
2270			
2617 3	$3^-$	3	E(level): From <a href="#">1981Ba45</a> ; strongly excited in <a href="#">1971GrXR</a> . $\beta_3=0.0878$ 14 from coupled-channels analysis, 0.121 3 from folded-model analysis ( <a href="#">1976Gi10</a> ); other: <a href="#">1967Al14</a> , <a href="#">1981Ba45</a> .
2810			
2910			
3050			
3180			
3500			
3580			
3740			
3820			
3970			
4030			
4120			
4270			
4400			E(level): Strongly excited in <a href="#">1971GrXR</a> .

<sup>†</sup> From [1971GrXR](#) unless otherwise noted. Uncertainties not given in [1971GrXR](#); estimated by evaluators to be about 10 keV.

<sup>‡</sup> From [1971GrXR](#) based on L transfer.

<sup>#</sup> From  $\sigma(\theta)$  distorted-wave calculations ([1971GrXR](#)).

<sup>@</sup> [Additional information 1](#).