

$^{27}\text{Al}(^{19}\text{F},\text{pn}\gamma)$  1983Ke17,1976Po03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 190,1 (2023)	20-Jun-2023

**1983Ke17:** E=39 MeV beam was produced from the EN Tandem van de Graaff accelerator of the University of the Witwatersrand. Target was 150  $\mu\text{g}/\text{cm}^2$  aluminum evaporated onto a molybdenum backing.  $\gamma$  rays were detected with a Ge(Li) detector (FWHM=2.3 keV at 1.33 MeV). Measured  $E_\gamma$ ,  $I_\gamma$ , Doppler-shift attenuation. Deduced levels,  $T_{1/2}$ .

**1976Po03:** E=40 MeV  $^{19}\text{F}$  beam was produced from the MP tandem at BNL. Target was 350  $\mu\text{g}/\text{cm}^2$  aluminum evaporated on a tungsten backing.  $\gamma$  rays were detected with Ge(Li) detectors. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$ -coin, recoil-distance. Deduced  $T_{1/2}$  for levels of 631 and 3567 keV using Recoil Distance Method (RDM). Deduced information mainly for  $^{43}\text{Ca}$  and  $^{43}\text{Sc}$ .

$^{44}\text{Sc}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$ <sup>#</sup>	E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$ <sup>#</sup>	E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$ <sup>#</sup>
0	2 <sup>+</sup>		531	3 <sup>(-)</sup>	>0.7 ps	1186	3 <sup>+</sup>	38 fs +14-7
68	1 <sup>-</sup>		631	4 <sup>-</sup>	381 <sup>@</sup> ps 56	1426	2 <sup>+</sup>	42 fs 21
235	2 <sup>-</sup>	>0.7 ps	667	1 <sup>+</sup>	55 fs +28-14	2671	9 <sup>+</sup>	
350	4 <sup>+</sup>	>0.7 ps	763	3 <sup>+</sup>	250 fs +69-56	3567	11 <sup>+</sup>	35 <sup>@</sup> ps 7
425	3 <sup>-</sup>	>0.7 ps	987	3 <sup>+</sup>	>0.7 ps			

<sup>†</sup> From  $E_\gamma$  data.

<sup>‡</sup> From the Adopted Levels.

<sup>#</sup> From DSAM in 1983Ke17, unless otherwise noted.

<sup>@</sup> From RDM in 1976Po03.

$\gamma(^{44}\text{Sc})$

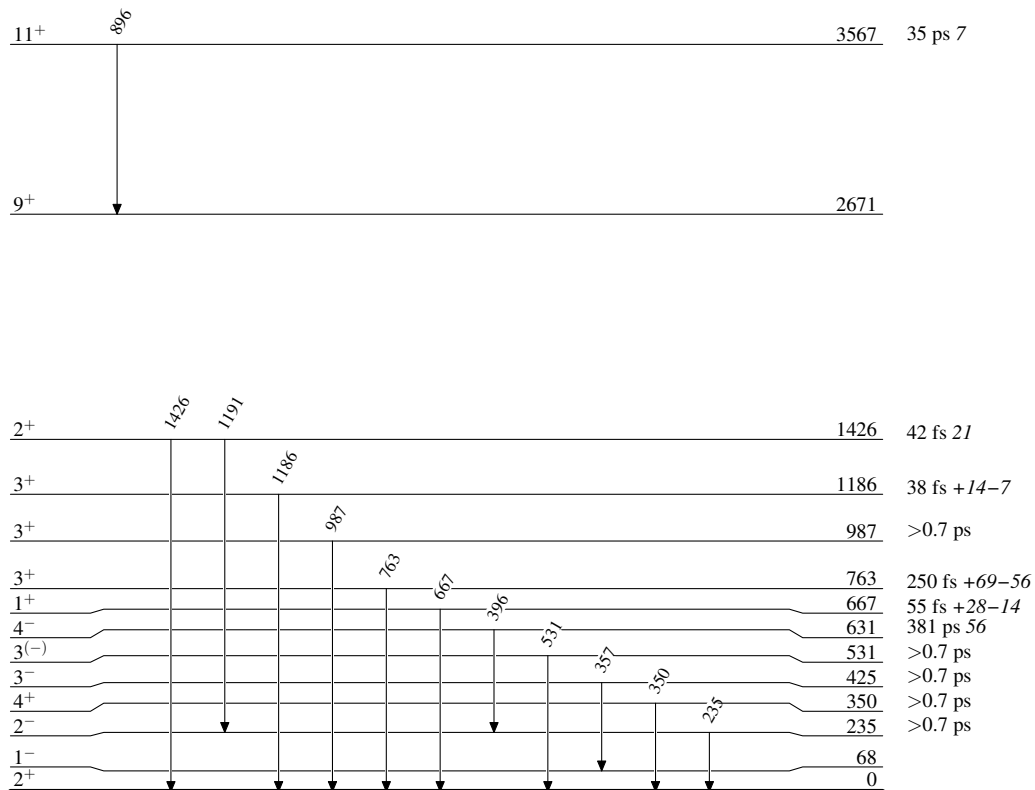
$E_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
235	235	2 <sup>-</sup>	0	2 <sup>+</sup>	531	531	3 <sup>(-)</sup>	0	2 <sup>+</sup>	987	987	3 <sup>+</sup>	0	2 <sup>+</sup>
350	350	4 <sup>+</sup>	0	2 <sup>+</sup>	667	667	1 <sup>+</sup>	0	2 <sup>+</sup>	1186	1186	3 <sup>+</sup>	0	2 <sup>+</sup>
357	425	3 <sup>-</sup>	68	1 <sup>-</sup>	763	763	3 <sup>+</sup>	0	2 <sup>+</sup>	1191	1426	2 <sup>+</sup>	235	2 <sup>-</sup>
396 <sup>‡</sup>	631	4 <sup>-</sup>	235	2 <sup>-</sup>	896 <sup>‡</sup>	3567	11 <sup>+</sup>	2671	9 <sup>+</sup>	1426	1426	2 <sup>+</sup>	0	2 <sup>+</sup>

<sup>†</sup> From 1983Ke17, unless otherwise noted.

<sup>‡</sup> From 1976Po03.

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## Level Scheme

 ${}^{44}_{21}\text{Sc}_{23}$