

$^{232}\text{Pa}(n,\gamma),(n,n)$:resonances **2018MuZZ**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, J. K. Tuli, E. Browne		NDS 170, 499 (2020)	8-Oct-2020

2018MuZZ: evaluation of neutron resonances, and parameters.

^{232}Pa g.s. $J^\pi=(2^-)$ (from ^{232}Pa Adopted Levels in the ENSDF database).

$S(n)(^{233}\text{Pa})=6528$ keV 8 (**2017Wa10**).

g =statistical weight factor.

Γ_f =fission width.

 ^{233}Pa Levels

$\Gamma_\gamma=43.4$ meV assumed in **2018MuZZ** for all resonances, except the first two.

Values of $2g\Gamma_n^0$ are also given in **2018MuZZ**.

E(level)	J^π	L	Comments
$S(n)-0.005?^\dagger$	[3/2]	(0)	$\Gamma_\gamma=41.8$ meV, $\Gamma_f=780$ meV.
$S(n)-0.00045?^\dagger$	[3/2]	(0)	$E(n)=-0.446$ eV, $\Gamma_\gamma=48.6$ meV, $\Gamma_f=5$ meV.
$S(n)+0.00033$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.14$ meV, $\Gamma_f=202.2$ meV.
$S(n)+0.00067$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.054$ meV, $\Gamma_f=207.7$ meV.
$S(n)+0.00137$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.053$ meV, $\Gamma_f=462.1$ meV.
$S(n)+0.00273$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.34$ meV, $\Gamma_f=237.3$ meV.
$S(n)+0.00306$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.16$ meV, $\Gamma_f=275.2$ meV.
$S(n)+0.00414$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.22$ meV, $\Gamma_f=409.4$ meV.
$S(n)+0.00644$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.18$ meV, $\Gamma_f=268.6$ meV.
$S(n)+0.00745$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.086$ meV, $\Gamma_f=486.3$ meV.
$S(n)+0.00841$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.12$ meV, $\Gamma_f=479.1$ meV.
$S(n)+0.00885$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.29$ meV, $\Gamma_f=412.8$ meV.
$S(n)+0.0097$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.35$ meV, $\Gamma_f=947$ meV.
$S(n)+0.01072$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.22$ meV, $\Gamma_f=11.4$ meV.
$S(n)+0.0113$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.93$ meV, $\Gamma_f=1468$ meV.
$S(n)+0.01186$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.29$ meV, $\Gamma_f=119$ meV.
$S(n)+0.01225$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=1$ meV, $\Gamma_f=143$ meV.
$S(n)+0.01307$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.08$ meV, $\Gamma_f=101$ meV.
$S(n)+0.0137$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=1.5$ meV, $\Gamma_f=672$ meV.
$S(n)+0.0145$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.47$ meV, $\Gamma_f=725$ meV.
$S(n)+0.01515$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.19$ meV, $\Gamma_f=91$ meV.
$S(n)+0.0158$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=1.5$ meV, $\Gamma_f=1448$ meV.
$S(n)+0.01655$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.22$ meV, $\Gamma_f=900$ meV.
$S(n)+0.017$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.61$ meV, $\Gamma_f=40$ meV.
$S(n)+0.01747$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.57$ meV, $\Gamma_f=309$ meV.
$S(n)+0.01837$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=1.7$ meV, $\Gamma_f=732$ meV.
$S(n)+0.01895$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.34$ meV, $\Gamma_f=90$ meV.
$S(n)+0.0195$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=2.1$ meV, $\Gamma_f=595$ meV.
$S(n)+0.0201$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=0.75$ meV, $\Gamma_f=18$ meV.
$S(n)+0.02063$	$(3/2^-,5/2^-)$	(0)	$2g\Gamma_n=2$ meV, $\Gamma_f=1220$ meV.

† Fictitious level.