^{147}Sm(n,X):resonances　　2007Ko54,2006MuZX

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

J^π(^{147}Sm g.s.)=7/2$^-$.

2007Ko54: neutron beam produced using an 800 MeV proton beam and a tungsten target. Enriched Sm target. Experiment performed using MLNSC at LANSCE. Measured neutrons using 4π DANCE array consisting of 160 BaF$_2$ crystals. Measured neutron flux with a BF$_3$ detector, a ^{235}U fission chamber and solid state surface-barrier detector. Deduced average widths, neutron strength functions and level spacings.

^{148}Sm Levels

$2g\Gamma_n$, Γ_γ, $2g\Gamma_n^0$, and Γ_α are from 2006MuZX.

E(level)[†]	J^{π}[‡]	L	Comments
S(n)-16.73	(4)	0	L: from 2006MuZX.
			Γ_γ=(73.4) meV, $2g\Gamma_n^0$=65.95 meV, Γ_α=0.71 μeV.
S(n)+0.00340 2	3		E(n)(lab)=3.397 20 eV (2006MuZX) (the value in the table is truncated because of format restriction).
			$2g\Gamma_n$=1.16 2 meV, Γ_γ=65 3 meV, $2g\Gamma_n^0$=0.629 11 meV, Γ_α=1.8 2 μeV.
S(n)+0.01832 5	4		E(n)(lab)=0.01836 eV.
			$2g\Gamma_n$=78 1 meV, Γ_γ=70 3 meV, $2g\Gamma_n^0$=18.3 2 meV, Γ_α=0.30 3 μeV.
S(n)+0.02716	3		$2g\Gamma_n$=5.95 30 meV, Γ_γ=79 5 meV, $2g\Gamma_n^0$=1.14 6 meV, Γ_α=0.25 8 μeV.
S(n)+0.02974 10	3		E(n)(lab)=0.02976.
			$2g\Gamma_n$=12.9 3 meV, Γ_γ=73 4 meV, $2g\Gamma_n^0$=2.37 6 meV, Γ_α=0.4 1 μeV.
S(n)+0.0321 1	4		E(n)(lab)=0.03214.
			$2g\Gamma_n$=43.0 12 meV, Γ_γ=68 5 meV, $2g\Gamma_n^0$=7.59 21 meV, Γ_α=0.25 7 μeV.
S(n)+0.03964 10	4		E(n)(lab)=0.03970.
			$2g\Gamma_n$=79 1 meV, Γ_γ=67 4 meV, $2g\Gamma_n^0$=12.5 2 meV, Γ_α=0.20 5 μeV.
S(n)+0.04071 10	3		E(n)(lab)=0.04072.
			$2g\Gamma_n$=4.5 2 meV, $2g\Gamma_n^0$=0.71 3 meV, Γ_α=(0.3) μeV.
S(n)+0.04934 10	4		E(n)(lab)=0.04936.
			$2g\Gamma_n$=17.0 3 meV, Γ_γ=75 4 meV, $2g\Gamma_n^0$=2.42 4 meV, Γ_α=0.014 70 μeV.
S(n)+0.05804 10	3		E(n)(lab)=0.05809.
			$2g\Gamma_n$=37 1 meV, Γ_γ=77 5 meV, $2g\Gamma_n^0$=4.86 13 meV, Γ_α=0.29 8 μeV.
S(n)+0.06496[@]	3[#]		
S(n)+0.06513[@]	4		E(n)(lab)=0.0651 1 (2006MuZX).
			$2g\Gamma_n$=5.1 3 meV, $2g\Gamma_n^0$=0.63 4 meV, Γ_α=0.12 7 μeV.
S(n)+0.07612 10	4		E(n)(lab)=0.07615.
			$2g\Gamma_n$=19.2 meV, Γ_γ=74 5 meV, $2g\Gamma_n^0$=2.20 7 meV, Γ_α<0.3 μeV.
S(n)+0.07988 20	4		E(n)(lab)=0.07989.
			$2g\Gamma_n$=4.0 3 meV, $2g\Gamma_n^0$=0.45 3 meV, Γ_α<3.6 μeV.
S(n)+0.08355 20	3		E(n)(lab)=0.08360.
			$2g\Gamma_n$=65.8 20 meV, Γ_γ=76 5 meV, $2g\Gamma_n^0$=7.21 22 meV, Γ_α=2.5 3 μeV.
S(n)+0.0949 2	3		E(n)(lab)=0.09490.
			$2g\Gamma_n$=5.6 4 meV, $2g\Gamma_n^0$=0.57 4 meV.
S(n)+0.0995 2	4		E(n)(lab)=0.09954.
			$2g\Gamma_n$=261 4 meV, Γ_γ=79 5 meV, $2g\Gamma_n^0$=26.2 4 meV.
S(n)+0.1026 2	3		E(n)(lab)=0.10269.
			$2g\Gamma_n$=171 6 meV, Γ_γ=76 7 meV, $2g\Gamma_n^0$=16.9 6 meV, Γ_α=1.14 17 μeV.
S(n)+0.1069 2	4		E(n)(lab)=0.10693.
			$2g\Gamma_n$=47 2 meV, Γ_γ=82 5 meV, $2g\Gamma_n^0$=4.5 2 meV, Γ_α=0.72 22 μeV.
S(n)+0.10858 30	4		$2g\Gamma_n$=1.0 4 meV, $2g\Gamma_n^0$=0.096 40 meV.
S(n)+0.12365 20	3		E(n)(lab)=0.12371.

Continued on next page (footnotes at end of table)

^{147}**Sm(n,X):resonances**   **2007Ko54,2006MuZX (continued)**

^{148}Sm Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
		$2g\Gamma_n$=155 5 meV, Γ_γ=73 6 meV, $2g\Gamma_n^0$=13.6 4 meV, Γ_α=1.1 2 μeV.
S(n)+0.14000[@]	(3)[#]	E(n)(lab)=0.1400 2 (2006MuZX).
		$2g\Gamma_n$=77 2 meV, $2g\Gamma_n^0$=6.5 2 meV, Γ_α=0.48 15 μeV.
S(n)+0.14010[@]	(4)[#]	
S(n)+0.14327 20	4	$2g\Gamma_n$=2.7 6 meV, $2g\Gamma_n^0$=0.23 5 meV, Γ_α=3.6 μeV.
S(n)+0.15154 20	3	$2g\Gamma_n$=143 4 meV, Γ_γ=75 5 meV, $2g\Gamma_n^0$=11.6 3 meV, Γ_α=0.31 12 μeV.
S(n)+0.1609 2	3	E(n)(lab)=0.16103.
		$2g\Gamma_n$=48 meV, $2g\Gamma_n^0$=3.8 2 meV, Γ_α=4.8 12 μeV.
S(n)+0.16174 30	4	E(n)(lab)=0.16188.
		$2g\Gamma_n$=14.7 16 meV, $2g\Gamma_n^0$=1.16 13 meV.
S(n)+0.16362 30	4	$2g\Gamma_n$=150 4 meV, Γ_γ=77 4 meV, $2g\Gamma_n^0$=11.7 3 meV, Γ_α=2.7 6 μeV.
S(n)+0.17175 30	4	E(n)(lab)=0.17180.
		$2g\Gamma_n$=16.0 17 meV, Γ_γ=69 4 meV, $2g\Gamma_n^0$=1.22 13 meV.
S(n)+0.17959 30	3	E(n)(lab)=0.17968.
		$2g\Gamma_n$=9.0 9 meV, $2g\Gamma_n^0$=0.67 7 meV.
S(n)+0.18412 30	3	E(n)(lab)=0.18414.
		$2g\Gamma_n$=340 6 meV, $2g\Gamma_n^0$=25.0 4 meV, Γ_α=19.5 16 μeV.
S(n)+0.19104 30	3	E(n)(lab)=0.19107.
		$2g\Gamma_n$=30.0 16 meV, Γ_γ=79 5 meV, $2g\Gamma_n^0$=2.17 12 meV, Γ_α=3.5 14 μeV.
S(n)+0.1935 3	4	E(n)(lab)=0.19361.
		$2g\Gamma_n$=10.5 10 meV, $2g\Gamma_n^0$=5.6 10 meV, Γ_α=0.40 7 μeV.
S(n)+0.19803 30	3	$2g\Gamma_n$=10.5 meV, Γ_γ=61 4 meV, $2g\Gamma_n^0$=0.746 114 meV, Γ_α=4 μeV.
S(n)+0.20603 30	4	$2g\Gamma_n$=208 4 meV, Γ_γ=83 5 meV, $2g\Gamma_n^0$=14.5 3 meV.
S(n)+0.22165 30	3	$2g\Gamma_n$=115 5 meV, Γ_γ=67 6 meV, $2g\Gamma_n^0$=7.73 34 meV, Γ_α=3.9 7 μeV.
S(n)+0.22528 30	3	$2g\Gamma_n$=210 4 meV, Γ_γ=86 5 meV, $2g\Gamma_n^0$=14.0 3 meV, Γ_α=1.2 3 μeV.
S(n)+0.2279 3	(4)	$2g\Gamma_n$=2.9 13 meV, $2g\Gamma_n^0$=0.6 3 meV, Γ_α=0.7 2 μeV.
S(n)+0.2287 3	4[#]	E(n)(lab)=0.22853.
		$2g\Gamma_n$= meV, Γ_γ= meV, $2g\Gamma_n^0$= meV, Γ_α= μeV.
S(n)+0.24076 30	4	$2g\Gamma_n$=14 2 meV, Γ_γ=91 6 meV, $2g\Gamma_n^0$=0.90 13 meV.
S(n)+0.24762 30	4	$2g\Gamma_n$=156 6 meV, Γ_γ=69 6 meV, $2g\Gamma_n^0$=9.91 38 meV.
S(n)+0.25713[@]	3[#]	E(n)(lab)=0.25713 40 (2006MuZX).
		$2g\Gamma_n$=86 6 meV, $2g\Gamma_n^0$=5.4 4 meV.
S(n)+0.25800[@]	4[#]	
S(n)+0.26357 40	3	$2g\Gamma_n$=65 4 meV, $2g\Gamma_n^0$=4.0 2 meV.
S(n)+0.26623 40	4	E(n)(lab)=0.26626.
		$2g\Gamma_n$=200 6 meV, Γ_γ=72 6 meV, $2g\Gamma_n^0$=12.3 4 meV.
S(n)+0.27076 40	3	E(n)(lab)=0.27072.
		$2g\Gamma_n$=78 4 meV, Γ_γ=85 5 meV, $2g\Gamma_n^0$=4.7 2 meV, Γ_α=1.2 5 μeV.
S(n)+0.2744 4	3	E(n)(lab)=0.27440.
		$2g\Gamma_n$=18 2 meV, $2g\Gamma_n^0$=1.1 1 meV.
S(n)+0.28328 40	4	$2g\Gamma_n$=22 2 meV, Γ_γ=58 10 meV, $2g\Gamma_n^0$=1.3 1 meV.
S(n)+0.29010[@]	(4)[#]	E(n)(lab)=0.2901 4 (2006MuZX).
		$2g\Gamma_n$=40 3 meV, Γ_γ=68 6 meV, $2g\Gamma_n^0$=2.3 2 meV.
S(n)+0.29030[@]	(3)[#]	
S(n)+0.30828 40	3	E(n)(lab)=0.30830.
		$2g\Gamma_n$=7 2 meV, $2g\Gamma_n^0$=0.42 11 meV.
S(n)+0.31206 40	4	$2g\Gamma_n$=21 4 meV, $2g\Gamma_n^0$=1.19 20 meV.
S(n)+0.32113 40	3	$2g\Gamma_n$=10 1 meV, $2g\Gamma_n^0$=0.56 6 meV.
S(n)+0.3301 4	3	E(n)(lab)=0.33010.
		$2g\Gamma_n$=67 4 meV, $2g\Gamma_n^0$=3.7 2 meV.
S(n)+0.3321 5	4	$2g\Gamma_n$=73 4 meV, $2g\Gamma_n^0$=4.0 2 meV.

^{147}**Sm(n,X):resonances**　　**2007Ko54,2006MuZX** **(continued)**

^{148}Sm Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
S(n)+0.3404 *5*	4	$2g\Gamma_n$=180 6 meV, $2g\Gamma_n^0$=9.76 33 meV.
S(n)+0.34986 *50*	3	$2g\Gamma_n$=62 5 meV, $2g\Gamma_n^0$=3.3 3 meV.
S(n)+0.35932 *50*	4	$2g\Gamma_n$=380 30 meV, $2g\Gamma_n^0$=20 12 meV.
S(n)+0.36215 *50*	4	$2g\Gamma_n$=31 4 meV, $2g\Gamma_n^0$=1.6 2 meV.
S(n)+0.3792 *6*	4	$2g\Gamma_n$=394 12 meV, $2g\Gamma_n^0$=20.2 6 meV.
S(n)+0.3819 *6*	3	E(n)(lab)=0.3824.
		$2g\Gamma_n$=139 8 meV, $2g\Gamma_n^0$=7.11 41 meV, Γ_α=5.1 16 μeV.
S(n)+0.3905 *6*	4	$2g\Gamma_n$=120 7 meV, $2g\Gamma_n^0$=6.07 35 meV.
S(n)+0.3964 *6*	4	E(n)(lab)=0.3965.
		$2g\Gamma_n$=67 5 meV, $2g\Gamma_n^0$=3.4 3 meV.
S(n)+0.3985 *7*	3	E(n)(lab)=0.3986.
		$2g\Gamma_n$=102 8 meV, $2g\Gamma_n^0$=5.11 40 meV.
S(n)+0.4048 *7*	3	E(n)(lab)=0.4051.
		$2g\Gamma_n$=33 4 meV, $2g\Gamma_n^0$=1.6 2 meV.
S(n)+0.4118 *7*	3	E(n)(lab)=0.4120.
		$2g\Gamma_n$=55 5 meV, $2g\Gamma_n^0$=2.7 2 meV.
S(n)+0.4176[@]	3[#]	E(n)(lab)=0.4181 8 (2006MuZX).
		J$^{\pi}$: (4) (2007Ko54).
		$2g\Gamma_n$=238 12 meV, $2g\Gamma_n^0$=11.6 6 meV.
S(n)+0.4192[@]	4[#]	
S(n)+0.4213 *8*	4	E(n)(lab)=0.4218.
		$2g\Gamma_n$=68 5 meV, $2g\Gamma_n^0$=3.3 2 meV.
S(n)+0.4331 *8*	4	$2g\Gamma_n$=17 4 meV, $2g\Gamma_n^0$=0.82 19 meV.
S(n)+0.4358 *8*	3	E(n)(lab)=0.4357.
		$2g\Gamma_n$=156 9 meV, $2g\Gamma_n^0$=7.47 43 meV.
S(n)+0.4398 *8*	4	E(n)(lab)=0.4402.
		$2g\Gamma_n$=39 4 meV, $2g\Gamma_n^0$=1.9 2 meV.
S(n)+0.4467	3	E(n)(lab)=0.4469.
		$2g\Gamma_n$=7 3 meV, $2g\Gamma_n^0$=0.3 1 meV.
S(n)+0.45845	4	E(n)(lab)=0.4586.
		$2g\Gamma_n$=100 7 meV, $2g\Gamma_n^0$=4.67 33 meV.
S(n)+0.46267	3	E(n)(lab)=0.4629.
		$2g\Gamma_n$=53 6 meV, $2g\Gamma_n^0$=2.5 3 meV.
S(n)+0.4757	4	E(n)(lab)=0.4760.
		$2g\Gamma_n$=117 8 meV, $2g\Gamma_n^0$=5.36 37 meV.
S(n)+0.4795	3	E(n)(lab)=0.4798.
		$2g\Gamma_n$=117 11 meV, $2g\Gamma_n^0$=8.08 50 meV, Γ_α=2.2 10 μeV.
S(n)+0.4863	3	E(n)(lab)=0.4864.
		$2g\Gamma_n$=111 8 meV, $2g\Gamma_n^0$=5.03 36 meV.
S(n)+0.496	4	E(n)(lab)=0.4962.
		$2g\Gamma_n$=120 9 meV, $2g\Gamma_n^0$=5.39 40 meV.
S(n)+0.4987	3	E(n)(lab)=0.4986.
		$2g\Gamma_n$=294 15 meV, $2g\Gamma_n^0$=13.2 7 meV.
S(n)+0.5135[@]	(3)[#]	E(n)(lab)=0.5134 (2006MuZX).
		$2g\Gamma_n$=474 20 meV, $2g\Gamma_n^0$=20.9 9 meV, Γ_α=1.7 10 μeV.
S(n)+0.5154[@]	(4)[#]	
S(n)+0.5287	4	E(n)(lab)=0.5289.
		$2g\Gamma_n$=72 7 meV, $2g\Gamma_n^0$=3.1 3 meV.
S(n)+0.5324	3	E(n)(lab)=0.5325.
		$2g\Gamma_n$=60 7 meV, $2g\Gamma_n^0$=2.6 3 meV.
S(n)+0.5379	4	E(n)(lab)=0.5381.
		$2g\Gamma_n$=575 22 meV, $2g\Gamma_n^0$=24.8 9 meV.
S(n)+0.5460[@]	(3)[#]	E(n)(lab)=0.5456 (2006MuZX).

^{147}Sm(n,X):resonances　　2007Ko54,2006MuZX (continued)

^{148}Sm Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
		$2g\Gamma_n$=185 12 meV, $2g\Gamma_n^0$=7.92 51 meV.
S(n)+0.5462[@]	(4)[#]	
S(n)+0.5526	3	E(n)(lab)=0.5532.
		$2g\Gamma_n$=367 26 meV, $2g\Gamma_n^0$=15.6 11 meV, Γ_{α}=3.3 11 μeV.
S(n)+0.5544	4	E(n)(lab)=0.5545.
		$2g\Gamma_n$=248 20 meV, $2g\Gamma_n^0$=10.5 8 meV.
S(n)+0.5595	3	E(n)(lab)=0.5597.
		$2g\Gamma_n$=207 14 meV, $2g\Gamma_n^0$=8.75 59 meV, Γ_{α}=2.8 10 μeV.
S(n)+0.5634	4	$2g\Gamma_n$=219 15 meV, $2g\Gamma_n^0$=9.23 63 meV.
S(n)+0.5676	3[#]	$2g\Gamma_n$=38 7 meV, $2g\Gamma_n^0$=1.6 3 meV.
S(n)+0.5742	4	E(n)(lab)=0.5743.
		$2g\Gamma_n$=101 9 meV, $2g\Gamma_n^0$=4.22 38 meV.
S(n)+0.5801	3	E(n)(lab)=0.5802.
		$2g\Gamma_n$=124 11 meV, $2g\Gamma_n^0$=5.15 46 meV.
S(n)+0.5876	3	E(n)(lab)=0.5878.
		$2g\Gamma_n$=83 9 meV, $2g\Gamma_n^0$=3.4 4 meV.
S(n)+0.5973	4	E(n)(lab)=0.5974.
		$2g\Gamma_n$=176 13 meV, $2g\Gamma_n^0$=7.20 53 meV.
S(n)+0.6057	4	E(n)(lab)=0.6060.
		$2g\Gamma_n$=125 11 meV, $2g\Gamma_n^0$=5.12 45 meV.
S(n)+0.6126	3[#]	$2g\Gamma_n$=93 10 meV, $2g\Gamma_n^0$=3.8 4 meV, Γ_{α}=3.7 19 μeV.
S(n)+0.6172	4[#]	$2g\Gamma_n$=493 25 meV, $2g\Gamma_n^0$=19.8 10 meV.
S(n)+0.6226	4[#]	$2g\Gamma_n$=151 13 meV, $2g\Gamma_n^0$=6.05 52 meV.
S(n)+0.6253	3[#]	$2g\Gamma_n$=74 10 meV, $2g\Gamma_n^0$=3.0 4 meV.
S(n)+0.6339	3	E(n)(lab)=0.6340.
		$2g\Gamma_n$=29 8 meV, $2g\Gamma_n^0$=1.2 3 meV.
S(n)+0.6447	4[#]	$2g\Gamma_n$=60 9 meV, $2g\Gamma_n^0$=2.4 4 meV.
S(n)+0.6485	4[#]	$2g\Gamma_n$=209 15 meV, $2g\Gamma_n^0$=8.21 59 meV.
S(n)+0.6519	3[#]	$2g\Gamma_n$=102 11 meV, $2g\Gamma_n^0$=3.99 43 meV.
S(n)+0.6592	3[#]	J$^{\pi}$: (4) (2006MuZX).
		E(n)(lab)=0.6595.
		$2g\Gamma_n$=80 10 meV, $2g\Gamma_n^0$=3.1 4 meV, Γ_{α}=16.1 76 μeV.
S(n)+0.6688	4	$2g\Gamma_n$=65 10 meV, $2g\Gamma_n^0$=2.5 4 meV.
S(n)+0.6775	3[#]	$2g\Gamma_n$=159 14 meV, $2g\Gamma_n^0$=6.11 54 meV.
S(n)+0.6831	4[#]	$2g\Gamma_n$=236 18 meV, $2g\Gamma_n^0$=9.03 69 meV.
S(n)+0.6874	4[#]	$2g\Gamma_n$=19 9 meV, $2g\Gamma_n^0$=0.72 34 meV.
S(n)+0.6968	4[#]	E(n)(lab)=0.6970.
		$2g\Gamma_n$=87 12 meV, $2g\Gamma_n^0$=3.3 5 meV.
S(n)+0.702	3[#]	$2g\Gamma_n$=50 10 meV, $2g\Gamma_n^0$=1.9 4 meV.
S(n)+0.713	3	E(n)(lab)=0.7140.
		$2g\Gamma_n$=193 18 meV, $2g\Gamma_n^0$=7.23 67 meV.
S(n)+0.724	3[#]	$2g\Gamma_n$=42 11 meV, $2g\Gamma_n^0$=1.6 4 meV.
S(n)+0.729	4[#]	$2g\Gamma_n$=266 21 meV, $2g\Gamma_n^0$=9.85 78 meV.
S(n)+0.734	3[#]	$2g\Gamma_n$=448 29 meV, $2g\Gamma_n^0$=16.5 11 meV.
S(n)+0.744	4	E(n)(lab)=0.7443.
		$2g\Gamma_n$=64 12 meV, $2g\Gamma_n^0$=2.3 4 meV.
S(n)+0.754	4[#]	$2g\Gamma_n$=233 20 meV, $2g\Gamma_n^0$=8.49 73 meV.
S(n)+0.758	3[#]	$2g\Gamma_n$=337 26 meV, $2g\Gamma_n^0$=12.2 9 meV.
S(n)+0.764[@]	4[#]	E(n)(lab)=0.765 (2006MuZX).

^{147}**Sm(n,X):resonances**   **2007Ko54,2006MuZX (continued)**

^{148}Sm Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
		$2g\Gamma_n$=1060 40 meV, $2g\Gamma_n^0$=38.3 14 meV.
S(n)+0.766[@]	3[#]	
S(n)+0.796	3	E(n)(lab)=0.7962.
		$2g\Gamma_n$=130 5 meV, $2g\Gamma_n^0$=4.61 18 meV.
S(n)+0.8095	4	E(n)(lab)=0.8080.
		$2g\Gamma_n$=450 30 meV, $2g\Gamma_n^0$=16 11 meV.
S(n)+0.823	4	E(n)(lab)=0.8210.
		$2g\Gamma_n$=380 29 meV, $2g\Gamma_n^0$=13.2 10 meV.
S(n)+0.838	4	E(n)(lab)=0.8361.
		$2g\Gamma_n$=162 19 meV, $2g\Gamma_n^0$=5.61 66 meV.
S(n)+0.847	4[#]	$2g\Gamma_n$=17 16 meV, $2g\Gamma_n^0$=0.58 55 meV.
S(n)+0.850	(3)[#]	$2g\Gamma_n$=217 25 meV, $2g\Gamma_n^0$=7.44 86 meV.
S(n)+0.854	(4)[#]	$2g\Gamma_n$=950 60 meV, $2g\Gamma_n^0$=33 2 meV.
S(n)+0.858	4[#]	$2g\Gamma_n$=223 31 meV, $2g\Gamma_n^0$=7.61 106 meV.
S(n)+0.864	3[#]	$2g\Gamma_n$=70 16 meV, $2g\Gamma_n^0$=2.4 5 meV.
S(n)+0.875	3[#]	E(n)(lab)=0.8752.
		J$^{\pi}$: 4 (2006MuZX).
		$2g\Gamma_n$=590 40 meV, $2g\Gamma_n^0$=20 1 meV.
S(n)+0.880	4[#]	$2g\Gamma_n$=14 14 meV, $2g\Gamma_n^0$=0.47 47 meV.
S(n)+0.896	4	E(n)(lab)=0.8961.
		$2g\Gamma_n$=740 50 meV, $2g\Gamma_n^0$=25 2 meV.
S(n)+0.911	3[#]	$2g\Gamma_n$=36 17 meV, $2g\Gamma_n^0$=1.2 6 meV.
S(n)+0.922	4[#]	$2g\Gamma_n$=180 25 meV, $2g\Gamma_n^0$=5.93 82 meV.
S(n)+0.930	3[#]	$2g\Gamma_n$=530 50 meV, $2g\Gamma_n^0$=17 2 meV.
S(n)+0.935	4[#]	$2g\Gamma_n$=1140 70 meV, $2g\Gamma_n^0$=37.3 23 meV.
S(n)+0.943	4[#]	$2g\Gamma_n$=470 40 meV, $2g\Gamma_n^0$=15 1 meV.
S(n)+0.953	(3)[#]	$2g\Gamma_n$=71 21 meV, $2g\Gamma_n^0$=2.3 7 meV.
S(n)+0.962	3[#]	$2g\Gamma_n$=219 30 meV, $2g\Gamma_n^0$=7.06 97 meV.
S(n)+0.984	3[#]	$2g\Gamma_n$=420 40 meV, $2g\Gamma_n^0$=13 1 meV.
S(n)+0.991	4[#]	$2g\Gamma_n$=302 33 meV, $2g\Gamma_n^0$=9.59 105 meV.
S(n)+1.001		$2g\Gamma_n$=77 23 meV, $2g\Gamma_n^0$=2.4 7 meV.
S(n)+1.009		$2g\Gamma_n$=37 21 meV, $2g\Gamma_n^0$=1.2 7 meV.
S(n)+1.016		$2g\Gamma_n$=113 26 meV, $2g\Gamma_n^0$=3.55 82 meV.
S(n)+1.025		$2g\Gamma_n$=82 27 meV, $2g\Gamma_n^0$=2.6 8 meV.
S(n)+1.028		$2g\Gamma_n$=390 50 meV, $2g\Gamma_n^0$=12 2 meV.
S(n)+1.039		$2g\Gamma_n$=220 40 meV, $2g\Gamma_n^0$=6.8 12 meV.
S(n)+1.050		$2g\Gamma_n$=580 50 meV, $2g\Gamma_n^0$=18 12 meV.
S(n)+1.056		$2g\Gamma_n$=84 26 meV, $2g\Gamma_n^0$=2.6 8 meV.
S(n)+1.062		$2g\Gamma_n$=720 60 meV, $2g\Gamma_n^0$=22 2 meV.
S(n)+1.070		$2g\Gamma_n$=165 31 meV, $2g\Gamma_n^0$=5.04 95 meV.
S(n)+1.084		$2g\Gamma_n$=710 60 meV, $2g\Gamma_n^0$=22 2 meV.
S(n)+1.102		$2g\Gamma_n$=380 40 meV, $2g\Gamma_n^0$=11 1 meV.
S(n)+1.112		$2g\Gamma_n$=990 60 meV, $2g\Gamma_n^0$=30 2 meV.
S(n)+1.117		$2g\Gamma_n$=142 28 meV, $2g\Gamma_n^0$=4.25 84 meV.
S(n)+1.128		$2g\Gamma_n$=200 33 meV, $2g\Gamma_n^0$=5.95 98 meV.
S(n)+1.132		$2g\Gamma_n$=480 50 meV, $2g\Gamma_n^0$=14 1 meV.
S(n)+1.139		$2g\Gamma_n$=109 26 meV, $2g\Gamma_n^0$=3.23 77 meV.
S(n)+1.148		$2g\Gamma_n$=111 28 meV, $2g\Gamma_n^0$=3.28 83 meV.
S(n)+1.153		$2g\Gamma_n$=198 32 meV, $2g\Gamma_n^0$=5.83 94 meV.

^{147}**Sm(n,X):resonances** **2007Ko54,2006MuZX (continued)**

^{148}Sm Levels (continued)

E(level)[†]	Comments
S(n)+1.181	$2g\Gamma_n$=420 40 meV, $2g\Gamma_n^0$=12 1 meV.
S(n)+1.187	$2g\Gamma_n$=53 26 meV, $2g\Gamma_n^0$=1.5 8 meV.
S(n)+1.196	$2g\Gamma_n$=350 40 meV, $2g\Gamma_n^0$=10 1 meV.
S(n)+1.207	$2g\Gamma_n$=470 50 meV, $2g\Gamma_n^0$=14 1 meV.
S(n)+1.216	$2g\Gamma_n$=410 50 meV, $2g\Gamma_n^0$=12 1 meV.
S(n)+1.228	$2g\Gamma_n$=960 60 meV, $2g\Gamma_n^0$=27 2 meV.
S(n)+1.246	$2g\Gamma_n$=330 40 meV, $2g\Gamma_n^0$=9.3 11 meV.
S(n)+1.257	$2g\Gamma_n$=890 70 meV, $2g\Gamma_n^0$=25 2 meV.
S(n)+1.265	$2g\Gamma_n$=111 32 meV, $2g\Gamma_n^0$=3.12 90 meV.
S(n)+1.279	$2g\Gamma_n$=570 60 meV, $2g\Gamma_n^0$=16 2 meV.
S(n)+1.292	$2g\Gamma_n$=140 40 meV, $2g\Gamma_n^0$=3.9 11 meV.
S(n)+1.298	$2g\Gamma_n$=250 40 meV, $2g\Gamma_n^0$=6.9 11 meV.
S(n)+1.308	$2g\Gamma_n$=100 40 meV, $2g\Gamma_n^0$=2.8 11 meV.
S(n)+1.318	$2g\Gamma_n$=270 50 meV, $2g\Gamma_n^0$=7.4 14 meV.
S(n)+1.323	$2g\Gamma_n$=490 60 meV, $2g\Gamma_n^0$=13 2 meV.
S(n)+1.332	$2g\Gamma_n$=170 40 meV, $2g\Gamma_n^0$=4.7 11 meV.
S(n)+1.356	$2g\Gamma_n$=120 40 meV, $2g\Gamma_n^0$=3.3 11 meV.
S(n)+1.365	$2g\Gamma_n$=510 60 meV, $2g\Gamma_n^0$=14 2 meV.
S(n)+1.396	$2g\Gamma_n$=580 70 meV, $2g\Gamma_n^0$=16 2 meV.
S(n)+1.404	$2g\Gamma_n$=560 70 meV, $2g\Gamma_n^0$=15 2 meV.
S(n)+1.428	$2g\Gamma_n$=960 90 meV, $2g\Gamma_n^0$=25 2 meV.
S(n)+1.449	$2g\Gamma_n$=210 50 meV, $2g\Gamma_n^0$=5.5 13 meV.
S(n)+1.458	$2g\Gamma_n$=170 50 meV, $2g\Gamma_n^0$=4.5 13 meV.
S(n)+1.472	$2g\Gamma_n$=560 70 meV, $2g\Gamma_n^0$=15 2 meV, Γ_α=34.2 104 μeV.
S(n)+1.517	$2g\Gamma_n$=1110 100 meV, $2g\Gamma_n^0$=28.5 26 meV.
S(n)+1.528	$2g\Gamma_n$=100 50 meV, $2g\Gamma_n^0$=2.6 23 meV.
S(n)+1.539	$2g\Gamma_n$=840 90 meV, $2g\Gamma_n^0$=21 2 meV.
S(n)+1.561	$2g\Gamma_n$=320 70 meV, $2g\Gamma_n^0$=8.1 18 meV.
S(n)+1.566	$2g\Gamma_n$=220 60 meV, $2g\Gamma_n^0$=5.6 15 meV.
S(n)+1.580	$2g\Gamma_n$=410 80 meV, $2g\Gamma_n^0$=10 2 meV.
S(n)+1.594	$2g\Gamma_n$=870 100 meV, $2g\Gamma_n^0$=22 3 meV.
S(n)+1.610	$2g\Gamma_n$= 390 100 meV, $2g\Gamma_n^0$=9.7 25 meV.
S(n)+1.634	$2g\Gamma_n$=820 140 meV, $2g\Gamma_n^0$=20 3 meV.
S(n)+1.646	$2g\Gamma_n$=1420 170 meV, $2g\Gamma_n^0$=35.0 42 meV.
S(n)+1.663	$2g\Gamma_n$=490 120 meV, $2g\Gamma_n^0$=12 3 meV.
S(n)+1.679	$2g\Gamma_n$=390 80 meV, $2g\Gamma_n^0$=9.5 20 meV.
S(n)+1.705	$2g\Gamma_n$=360 80 meV, $2g\Gamma_n^0$=8.7 19 meV.
S(n)+1.710	$2g\Gamma_n$=110 60 meV, $2g\Gamma_n^0$=2.7 15 meV.
S(n)+1.720	$2g\Gamma_n$=310 70 meV, $2g\Gamma_n^0$=7.5 17 meV.
S(n)+1.732	$2g\Gamma_n$=520 90 meV, $2g\Gamma_n^0$=12 2 meV.
S(n)+1.738	$2g\Gamma_n$=290 80 meV, $2g\Gamma_n^0$=7.0 19 meV.
S(n)+1.744	$2g\Gamma_n$=1030 120 meV, $2g\Gamma_n^0$=24.7 29 meV.
S(n)+1.780	$2g\Gamma_n$=200 70 meV, $2g\Gamma_n^0$=4.7 17 meV.
S(n)+1.794	$2g\Gamma_n$=230 70 meV, $2g\Gamma_n^0$=5.4 17 meV.
S(n)+1.799	$2g\Gamma_n$=490 110 meV, $2g\Gamma_n^0$=12 3 meV.
S(n)+1.819	$2g\Gamma_n$=200 80 meV, $2g\Gamma_n^0$=4.7 19 meV.
S(n)+1.827	$2g\Gamma_n$=200 70 meV, $2g\Gamma_n^0$=4.7 16 meV.
S(n)+1.888	$2g\Gamma_n$=100 70 meV, $2g\Gamma_n^0$=2.3 16 meV.
S(n)+1.898	$2g\Gamma_n$=890 140 meV, $2g\Gamma_n^0$=20 3 meV.
S(n)+1.902	$2g\Gamma_n$=690 120 meV, $2g\Gamma_n^0$=16 3 meV.
S(n)+1.912	$2g\Gamma_n$=260 90 meV, $2g\Gamma_n^0$=5.9 21 meV.

^{147}Sm(n,X):resonances   2007Ko54,2006MuZX (continued)

^{148}Sm Levels (continued)

E(level)[†]	Comments
S(n)+1.929	$2g\Gamma_n$=400 100 meV, $2g\Gamma_n^0$=9 2 meV.
S(n)+1.937	$2g\Gamma_n$=170 80 meV, $2g\Gamma_n^0$=3.9 18 meV.
S(n)+1.956	$2g\Gamma_n$=530 110 meV, $2g\Gamma_n^0$=12 2 meV.
S(n)+1.967	$2g\Gamma_n$=260 90 meV, $2g\Gamma_n^0$=5.9 20 meV.
S(n)+1.974	$2g\Gamma_n$=350 100 meV, $2g\Gamma_n^0$=7.9 23 meV.
S(n)+1.988	$2g\Gamma_n$=230 90 meV, $2g\Gamma_n^0$=5.2 20 meV.

[†] S(n)+E(n), where S(n)=8141.37 28 (2012Wa38), E(n) in c.m. system which can be obtained from (147/148)E(n)(lab). The listed
neutron energies in the table are in the lab system E(n)(lab) from 2006MuZX, while in comments are listed the E(n)(lab) values
given by 2007Ko54 from book by S.I. Sukhoruchkin et al., Low Energy Neutron Physics (Springer-Verlag, Berlin 1998)
(reference 15 in 2007Ko54).

[‡] From 2006MuZX, unless noted otherwise.

[#] Determined by 2007Ko54 by resonance analysis.

[@] Partially resolved doublet and energy from 2007Ko54.