Compilations: XUNDL and Atomic Masses (October 1, 2008 – Sept 30, 2009)

B. Singh
(McMaster)

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Contributors

- McMaster: Allison MacDonald (Oct 2008 to Dec 2009), Babak Karamy (from April 2009), Scott Geraedts (until April 2009), B. Singh
- TUNL (A=2-20): John Kelley, Grace Sheu, Jim Purcell
- ANL (PL-B; JP-G): Filip Kondev
- IFJ-PAN (Krakow): Kazimierz Zuber
- U. of Jordan: Khalifeh Abusaleem
- NNDC, BNL: Jagdish Tuli (XUNDL database management)

Current Contents of XUNDL

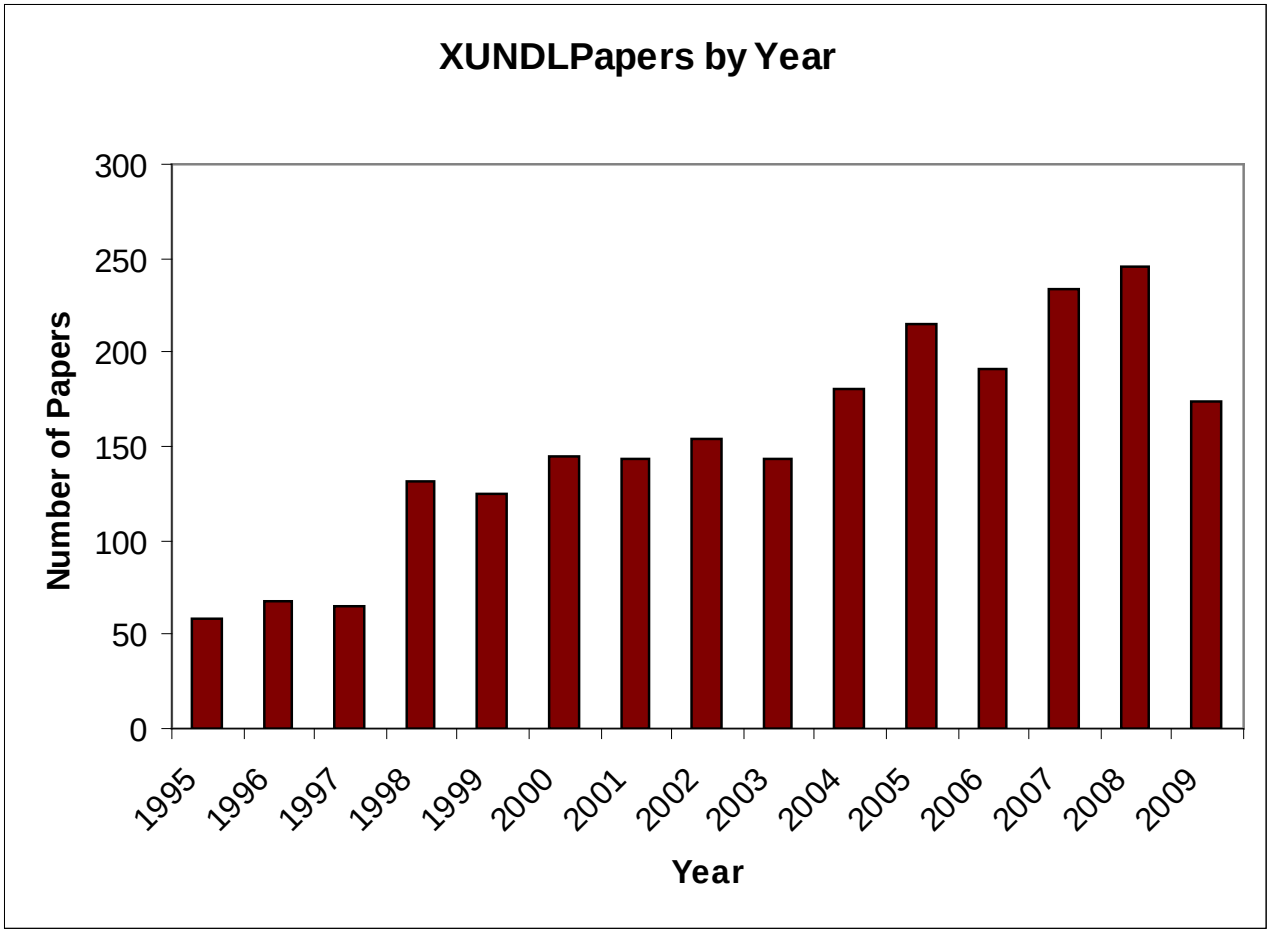
- Since the start in December 1998,
  3320 compiled datasets added up to Sept 30, 2009.
  (experimental nuclear structure data)

- 1730 nuclides: ^{1}H to ^{294}118, spread over 274 A-chains;

- From 2280 primary journal articles published during 1995 – 2009

- ~280 communications with the original authors to resolve data-related problems and to obtain additional data details.

- 3 recent publications in PRL/PRC, data only in XUNDL



Total Number of Papers = 2330

Journals covered and content

- PRC; PRL; PL-B; EPJ-A; NP-A; JP-G

  In 2009 (includes mass, radius papers)

  PRC: 165

  PRL: 43

  EPJ-A: 30

  PL-B: 30

  NP-A: 12

  JP-G: 3

- Other journals /sources

  Acta Physica Polonica B

  Chinese Physics Letters

  Int. J. Modern Physics E

  Bull. Russian Acad. Sci. Physics of Atomic Nuclei

  Applied Rad. & Isotopes

  arXiv-preprints.

  Other Preprints

Work during October 1, 2008 to September 30, 2009

- 490 datasets compiled from about 250 publications

  390 at McMaster ; 37 at TUNL; 39 at ANL; 14 at Krakow; 5 at Jordan; 1 at Manipal

- 35 existing datasets underwent major revisions based on new papers from previous authors/groups (33 at McMaster; 2 at TUNL)

- Since Nov 2007, we revisit compiled datasets to identify permanent NSR keynumbers.

- As of November 2, 2009, about current 40 papers are being compiled.

- Active communications with the authors continued throughout the year. In some cases such communications prompted authors to publish errata.

Need help

- In recent months there seems an upsurge of papers published in primary journals, especially, in PR-C

  (example: 103 articles in Sept PRC, 105 in Oct PRC; average 80 in 23 months before that)

- Request help for at least two more volunteers who could compile one paper each per week!

Compilation of Atomic mass measurements (current papers)

- All mass measurement papers published in 2008 and 2009 have been compiled at McMaster and datasets posted on www.nuclearmasses.org website.

  In the last one year two files posted:

1. March 1, 2009: Aug 2008 – Feb 2009:
   8 papers: 92 data points: Li-8 to Ba-146.

2. Oct 30, 2009: Mar 2009 – Oct 2009:
   19 papers: 81 data points + 9 mass differences of pairs
   Li-6 to Rn-229

McMaster Mass Compilation 03

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Date: October 30, 2009

Compiled Data from papers during March 2009 to October 2009

References:

NSR Key‡	Citation	Author	Title	Method	Facility
2009NE03	PRL 102, 112501	D. Neidherr et al.	"Discovery of 229Rn and the Structure of the Heaviest Rn and Ra Isotopes from Penning-Trap Mass Measurments"	Penning Trap	ISOLDE/CERN
2009ER02	PRC 79, 032802	T. Eronen et al.	"Mass and QEC value of 26Si"	Penning Trap	JYFLTRAP
2009SA12	PRL 102, 132501	J. Savory et al.	"rp Process and Masses of N=Z=34 Nuclides"	Penning Trap	LEBIT
2009EL08	EPJ A34, 341	V.-V. Elomaa et al.	"Light-ion-induced reactions in mass measurements of neutron-deficient nuclides close to A=100"	Penning Trap	JYFLTRAP
2009IR03	PLB 675, 170	R. Ringle et al.	"High-precision Penning trap measurements of 9,10Be and the one-neutron halo nuclide 11Be"	Penning Trap	TITAN/TRIUMF
2009RO04	PRC 79, 031603	T. Roger et al.	"Mass of 11Li from the 1H(11Li,9Li)3H reaction"	Q-value	ISAC/TRIUMF
2009GA24	NP A826, 1-23	C. Gaulard et al.	"Mass measurements of the exotic nuclides 11Li and 11,12Be performed with the MISTRAL spectrometer"	Radiofrequency	ISOLDE/CERN
2009RE07	PRL 102, 212502	M. Redshaw et al.	"Masses of 130Te and 130Xe and Double-beta-decay Q Value of 130Te"	Cyclotron-freq. ratio	FSU
2009EL07	PRL 102, 252501	V.-V. Elomaa et al	"Quenching of the SnSbTe Cycle in the rp Process"	Penning Trap	JYFLTRAP
2009KOAA	EPJ A, JULY 09	M. Kowalska et al.	"Preparing a journey to the east of 208Pb with ISOLTRAP: Isobaric purification at A=209 and new masses for 211-213Fr and 211Ra"	Penning Trap	ISOLDE/CERN
2009BR09	PRC 80, 035805	M. Breitenfeldt et al	"Penning trap mass measurements of 99-109Cd with the ISOLTRAP mass spectrometer, and implications for the rp process"	Penning Trap	ISOLDE/CERN
2007SC24	PRC 75, 055801; PRC 80, 029905(E)	P. Schury et al.	"Precision mass measurements of rare isotopes near N=Z=33 produced by fast beam fragmentation"	Penning Trap	LEBIT/NSCL
2009BRAA	PRC 80, 044318	M. Brodeur et al.	"New mass measurement of 6Li and ppb-level systematics studies of the Penning trap mass spectrometer TITAN"	Penning Trap	TITAN/TRIUMF
2009MO23	PRL 103, 122502	B. J. Mount et al.	"Q Value of 115In-115Sn(3/2+): The Lowest Known Energy B Decay"	Penning Trap	FSU
2009NEAA	PRC 80, 044323	D. Neidherr et al.	"High-precision Penning-trap mass measurements of heavy xenon isotopes for nuclear structure studies"	Penning Trap	ISOLTRAP/CERN
2009SAAA	PRC 80, 044330	A. Saastamoinen et al	"Mass of 23Al for testing the isobaric multiplet mass equation"	Penning Trap	JYFLTRAP
2009SC19	PRC 80, 025501	N.D. Scielzo et al	"Double-B-decay Q values of 130Te,128Te, and 120Te"	Penning Trap	CPT/ARGONNE
2009RA11	PRL 103, 042501	S. Rahaman et al.	"Accurate Q Value for the 112Sn Double-B Decay and its Implication for the Search of the Neutrino Mass"	Penning Trap	JYFLTRAP
2009WI10	PRL 103, 125501	J.S.E. Wieslander et al.	"Smallest Known Q Value of Any Nuclear Decay: The Rare B- Decay of 115In(9/2+)-115Sn(3/2+)"	Penning Trap	JYFLTRAP

NUCLIDE	LEVEL-ENERGY (keV)	HALF-LIFE	SPIN-PARITY	MEASURED MASS EXCESS (keV)	AME-2003 MASS EXCESS (keV)	(MEASURED)-(AME-2003) (keV)	REFERENCE
6Li	0	stable	1+	14086.881(25)	14086.793(15)	0.088	2009BRAA: PRC 80, 044318
9Be	0	stable	3/2-	11348.391(93)	11347.6(4)	0.791	2009IR03: PLB 675, 170
10Be	0	1.51 My	0+	12607.53(12)	12606.7(4)	0.83	2009IR03: PLB 675, 170
11Li	0	8.75 ms	3/2-	40735(22)	40797(19)	-62	2009RO04: PRC 79, 031603
11Li	0	8.75 ms	3/2-	40719(5)	40797(19)	-78	2009GA24: NP A826, 1
11Be	0	13.81 s	1/2+	20177.60(58)	20174(6)	3.6	2009IR03: PLB 675, 170
11Be	0	13.81 s	1/2+	20170.1(33)	20174(6)	-3.9	2009GA24: NP A826, 1
11Be	0	13.81 s	1/2+	20174.8(36)	20174(6)	0.8	2009GA24: NP A826, 1
12Be	0	21.50 ms	0+	25068(13)	25077(15)	-9	2009GA24: NP A826, 1
23Al	0	470 ms	5/2+	6748.07(34)	6770(19)	-21.93	2009SAAA: PRC 80, 044330
23Mg	0	11.317 s	3/2+	-5473.38(77)	-5473.8(13)	0.42	2009SAAA: PRC 80, 044330
26Si	0	2.234 s	0+	-7140.90(17)	-7145(3)	4.1	2009ER02: PRC 79, 032802
65Ge	0	15.2 min	3/2-	-56480.6(27)	-56410(100)	-70.6	2007SC24: PRC 75, 055801
67As	0	42.5 s	(5/2-)	-56586.0(15)	-56650(100)	64	2007SC24: PRC 75, 055801
68Se	0	35.5 s	0+	-54189.3(5)	-54210(30)	21	2009SA12: PRL 102, 132501
70Se	0	41.1 min	0+	-61929.7(16)	-62050(60)	121	2009SA12: PRL 102, 132501
70Br	0	79.1 min	0+	-51425(15)	-51430(310)	5	2009SA12: PRL 102, 132501
71Br	0	21.4 s	(5/2-)	-56502.4(54)	-57060(570)	558	2009SA12: PRL 102, 132501
97Pd	0	3.10 min	5/2+	-77805.9(49)	-77800(300)	-5.9	2009EL08: EPJ A34, 341
98Pd	0	17.7 min	0+	-81321.3(48)	-81300(21)	-21.3	2009EL08: EPJ A34, 341
99Pd	0	21.4 min	(5/2)+	-82178.9(51)	-82188(15)	9.1	2009EL08: EPJ A34, 341
99Cd	0	16 s	(5/2+)	-69931.1(16)	-69850(210)	-81.1	2009BR09: PRC 80, 035805
100Cd	0	49.1 s	0+	-74194.6(16)	-74250(100)	55.4	2009BR09: PRC 80, 035805
100Ag	0	2.01 min	(5)+	-78131.0(49)	-78150(80)	19	2009EL08: EPJ A34, 341
101Pd	0	8.47 h	5/2+	-85427.1(52)	-85428(18)	0.9	2009EL08: EPJ A34, 341
101Cd	0	1.36 min	(5/2+)	-75827.8(56)	-75750(150)	-77.8	2009EL08: EPJ A34, 341
101Cd	0	1.36 min	(5/2+)	-75836.4(15)	-75750(150)	-86.4	2009BR09: PRC 80, 035805
102Cd	0	5.5 min	0+	-79655.6(53)	-79678(29)	22.4	2009EL08: EPJ A34, 341
102Cd	0	5.5 min	0+	-79659.6(17)	-79678(29)	18.4	2009BR09: PRC 80, 035805
102In	0	23.3 s	(6+)	-70690.4(54)	-70710(110)	19.6	2009EL08: EPJ A34, 341
103Cd	0	7.3 min	5/2+	-80648.5(53)	-80649(15)	0.5	2009EL08: EPJ A34, 341
103Cd	0	7.3 min	5/2+	-80651.2(20)	-80649(15)	-2.2	2009BR09: PRC 80, 035805
104Cd	0	57.7 min	0+	-83962.9(56)	-83975(9)	12.1	2009EL08: EPJ A34, 341
104Cd	0	57.7 min	0+	-83968.5(18)	-83975(9)	6.5	2009BR09: PRC 80, 035805
104Sn	0	20.8 s	0+	-71625(6)	-71590(100)	-35	2009EL07: PRL 102, 252501
104In	0	1.80 min	5,6(+)	-76176.5(51)	-76110(80)	-66.5	2009EL08: EPJ A34, 341
105Sn	0	34 s	(5/2+)	-73336(5)	-73260(80)	-76	2009EL07: PRL 102, 252501
105Cd	0	55.5 min	5/2+	-84330.1(55)	-84330(12)	-0.1	2009EL08: EPJ A34, 341
105Cd	0	55.5 min	5/2+	-84334.0(14)	-84330(12)	-4	2009BR09: PRC 80, 035805
106Cd	0	stable	0+	-87130.4(17)	-87132(6)	1.6	2009BR09: PRC 80, 035805
106Sn	0	1.92 min	0+	-77351(7)	-77430(50)	79	2009EL07: PRL 102, 252501
106Sb	0	600 ms	(4+)	-66473(7)	-66330(310)	-143	2009EL07: PRL 102, 252501
107Cd	0	6.50 h	5/2+	-86990.4(18)	-86985(6)	-5	2009BR09: PRC 80, 035805
107Sb	0	4.6 s	5/2+	-70646(5)	-70650(300)	4	2009EL07: PRL 102, 252501
107Sn	0	2.90 min	(5/2+)	-78512(5)	-78580(80)	68	2009EL07: PRL 102, 252501
108Cd	0	stable	0+	-89252.7(21)	-89252(6)	-0.7	2009BR09: PRC 80, 035805
108Sb	0	7.4 s	(4+)	-72445(6)	-72510(210)	65	2009EL07: PRL 102, 252501
108Sn	0	10.30 min	0+	-82071(6)	-82041(20)	-30	2009EL07: PRL 102, 252501
108Te	0	2.1 s	0+	-65784(6)	-65720(100)	-64	2009EL07: PRL 102, 252501
109Cd	0	461.4 d	5/2+	-88503.7(17)	-88508(4)	4.3	2009BR09: PRC 80, 035805
109Sb	0	17.0 s	5/2+	-76251(5)	-76259(19)	8	2009EL07: PRL 102, 252501
109Te	0	4.6 s	(5/2+)	-67715(6)	-67610(60)	-105	2009EL07: PRL 102, 252501
110Sb	0	23.0 s	(4+)	-77450(6)	-77540(200)	90	2009EL07: PRL 102, 252501
111I	0	2.5 s	5/2+	-64958(6)	-64950(300)	-8	2009EL07: PRL 102, 252501
115Sn	0	stable	1/2+	-90033.928(16)	-90036.0(29)	2.072	2009MO23: PRL 103, 122502
115In	0	441 Ty	9/2+	-89536.417(15)	-89537(4)	0.583	2009MO23: PRL 103, 122502
130Te	0	790 Ey	0+	-87352.9538(22)	-87351.4(19)	-1.5538	2009RE07: PRL 102, 212502

110Sb	0	23.0 s	(4+)	-77450(6)	-77540(200)	90	2009EL07: PRL 102, 252501
111I	0	2.5 s	5/2+	-64958(6)	-64950(300)	-8	2009EL07: PRL 102, 252501
115Sn	0	stable	1/2+	-90033.928(16)	-90036.0(29)	2.072	2009MO23: PRL 103, 122502
115In	0	441 Ty	9/2+	-89536.417(15)	-89537(4)	0.583	2009MO23: PRL 103, 122502
130Te	0	790 Ey	0+	-87352.9538(22)	-87351.4(19)	-1.5538	2009RE07: PRL 102, 212502
130Xe	0	stable	0+	-89880.4632(22)	-89881.7(7)	1.2368	2009RE07: PRL 102, 212502
136Xe	0	stable	0+	-86429.8(18)	-86425(7)	-4.8	2009NEAA: PRC 80, 044323
137Xe	0	3.818 min	7/2-	-82382.2(18)	-82379(7)	-3.2	2009NEAA: PRC 80, 044323
138Xe	0	14.08 min	0+	-79975.1(33)	-80150(40)	174.9	2009NEAA: PRC 80, 044323
139Xe	0	39.68 s	3/2-	-75644.6(21)	-75644(21)	-0.6	2009NEAA: PRC 80, 044323
140Xe	0	13.60 s	0+	-72986.5(23)	-72990(60)	3.5	2009NEAA: PRC 80, 044323
141Xe	0	1.73 s	5/2(-)	-68197.3(29)	-68330(90)	132.7	2009NEAA: PRC 80, 044323
142Xe	0	1.22 s	0+	-65229.7(27)	-65480(100)	250.3	2009NEAA: PRC 80, 044323
143Xe	0	511 ms	5/2-	-60202.9(47)	-60450(200)	247.1	2009NEAA: PRC 80, 044323
144Xe	0	388 ms	0+	-56872.3(53)	-57280(300)	407.7	2009NEAA: PRC 80, 044323
145Xe	0	188 ms	3/2-	-51493(11)	-52100(300)	607	2009NEAA: PRC 80, 044323
146Xe	0	146 ms	0+	-47955(24)	-48670(400)	715	2009NEAA: PRC 80, 044323
211Fr	0	3.10 min	9/2-	-4140.1(117)	-4158(21)	-17.9	2009KOAA; EPJ A, July 09
211Ra	0	13 s	5/2(-)	832.0(79)	836(26)	-4	2009KOAA; EPJ A, July 09
212Fr	0	20.0 min	5+	-3516.0(88)	-3538(26)	22	2009KOAA; EPJ A, July 09
213Fr	0	34.6 s	9/2-	-3553.0(51)	-3550(8)	-3	2009KOAA; EPJ A, July 09
220Rn	0	55.6 s	0+	10614(10)	10613.4(22)	1	2009NE03: PRL 102, 112501
223Rn	0	24.3 min	7/2	20396(10)	20300(300)	96	2009NE03: PRL 102, 112501
224Rn	0	107 min	0+	22435(15)	22440(300)	-5	2009NE03: PRL 102, 112501
225Rn	0	4.66 min	7/2-	26555(22)	26490(300)	65	2009NE03: PRL 102, 112501
226Rn	0	7.4 min	0+	28739(16)	28770(400)	-31	2009NE03: PRL 102, 112501
227Rn	0	20.8 s	5/2(+)	32875(18)	32980(420)	-105	2009NE03: PRL 102, 112501
228Rn	0	65 s	0+	35249(22)	35380(410)	-131	2009NE03: PRL 102, 112501
229Rn	0	12.0 s		39362(13)	N/A	N/A	2009NE03: PRL 102, 112501

NUCLIDE PAIR	LEVEL-ENERGIES (keV)	HALF-LIVES	JPI	MEASURED MASS DIFFERENCE (keV)	AME-2003 MASS DIFFERENCE (keV)	MEASURED - AME-2003 (keV)	REFERENCE
112Sn-112Cd	0; 0	stable; stable	0+; 0+	1919.82(16)	1919(4)	0.82	2009RA11: PRL 103, 042501
115In-115Sn	0; 0	441 Ty; stable	9/2+; 1/2+	497.68(17)	499(4)	-1.32	2009WI10; PRL 103, 122501
120Te-120Sn	0; 0	stable; stable	0+; 0+	1715.96(159)	1700(10)	15.96	2009SC19: PRC 80, 025501
120Te-120Sn	0; 0	stable; stable	0+; 0+	1713.69(157)	1700(10)	13.69	2009SC19: PRC 80, 025501
128Te-128Xe	0; 0	2.2 Yy; stable	0+; 0+	865.87(131)	867.9(15)	-2.03	2009SC19: PRC 80, 025501
130Te-130Xe	0; 0	790 Ey; stable	0+; 0+	2527.01(32)	2530.3(20)	-3.29	2009SC19: PRC 80, 025501
130Xe-129Xe	0; 0	stable; stable	0+; 1/2+	930309.60(32)	930309.73	-0.13	2009SC19: PRC 80, 025501
132Xe-129Xe	0; 0	stable; stable	0+; 1/2+	2793899.12(30)	2793899.06	0.06	2009SC19: PRC 80, 025501
132Xe-129Xe	0; 0	stable; stable	0+; 1/2+	2793900.22(97)	2793899.06	1.16	2009SC19: PRC 80, 025501

McMaster Mass Compilation 03

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Date: March 1, 2009

Compiled Data from papers during July 2008 to February 2009

References:

NSR Key#	Citation	Author	Title	Method	Facility
2008FA11	PR-C 78, 022801(R)	J. Fallis et al.	"Determination of the proton separation energy of 93Rh from mass measurements"	Penning Trap	ANL-CPT
2008SU19	NP-A 812, 1	B. Sun et al.	"Nuclear Structure studies of short-lived neutron-rich nuclei with the novel large-scale isochronous mass spectrometry at the FRS-ESR facility"	Isochronous mass spectroscopy	GSI-FRS-ESR
2008GO23	PR-C 78, 014311	M.B. Gomez-Hornillos et al.	"Direct mass measurements of 68Se and 80Y"	Time-of-flight, cyclotron spectr.	GANIL
2008KA30	PRL 101, 014503	A. Kankainen et al.	"Mass Measurements and Implications for the Energy of the High-Spin Isomer in 94Ag"	Penning Trap	JYFL-JYFLTRAP
2008SM03	PRL 101, 202501	M. Smith et al.	"First Penning-Trap Mass Measurement of the Exotic Halo Nucleus 11Li"	Penning Trap	TRIUMF-TITAN
2008WE10	PR-C 78, 054310	C. Weber et al.	"Mass Measurements in the vicinity of the rp-process and the (nu)p-process paths with the Penning Trap facilities JYFLTRAP and SHIPTRAP"	Penning Trap	JYFL-JYFLTRAP GSI-SHIPTRAP
2008BA54	PRL 101, 262501	S. Baruah et al.	"Mass Measurements beyond the Major r-Process Waiting Point 80Zn"	Penning Trap	CERN-ISOLTRAP
2008GE07	PRL 101, 252502	W. Geithner et al.	"Masses and Charge Radii of 17-22Ne and the Two-Proton-Halo Candidate 17Ne"	Penning Trap	CERN-ISOLTRAP

NUCLIDE	LEVEL-ENERGY (keV)	HALF-LIFE	SPIN-PARITY	MEASURED MASS EXCESS (keV)	AME-2003 MASS EXCESS (keV)	(MEASURED)-(AME-2003) (keV)	REFERENCE
8Li	0	840.3 ms	2+	20945.80(11)	20946.84(9)	-1.04	2008SM03: PRL 101, 202501
9Li	0	178.3 ms	3/2-	24954.91(20)	24954.3(19)	0.6	2008SM03: PRL 101, 202501
11Li	0	8.75 ms	3/2-	40728.28(64)	40797(19)	-69	2008SM03: PRL 101, 202501
17Ne	0	109.2 ms	1/2-	16501.18(53)	16461(27)	40	2008GE07: PRL 101, 252502
18Ne	0	1.672 s	0+	5317.62(36)	5317.17(28)	0.45	2008GE07: PRL 101, 252502
19Ne	0	17.296 s	1/2+	1751.92(15)	1751.44(29)	0.48	2008GE07: PRL 101, 252502
20Ne	0	stable	0+	-7041.9272(18)	-7041.9313(18)	0.0041	2008GE07: PRL 101, 252502
21Ne	0	stable	3/2+	-5731.78(4)	-5731.78(4)	0	2008GE07: PRL 101, 252502
33Al	0	41.7 ms	5/2+sys	-8304(119)	-8530(70)	226	2008SU19: NP-A 812, 1
64Ga	0	2.627 min	0(+sys)	-58720(115)	-58834.3(20)	114	2008GO23: PR-C 78, 014311
64Zn	0	stable	0+	-66050(45)	-66003.6(7)	-46	2008GO23: PR-C 78, 014311
68As	0	151.6 s	3+	-58750(100)	-58900(40)	150	2008GO23: PR-C 78, 014311
68Ge	0	270.95 d	0+	-67010(60)	-66980(6)	-30	2008GO23: PR-C 78, 014311
68Se	0	35.5 s	0+	-53980(260)	-54210(30)	230	2008GO23: PR-C 78, 014311
71Zn	157.7	3.96 h	9/2+	-67171.2(24)	-67169(10)	-2.2	2008BA54: PRL 101, 262501
72Se	0	8.40 d	0+	-67730(120)	-67894(12)	164	2008GO23: PR-C 78, 014311

71Zn	157.7	3.96 h	9/2+	-67171.2(24)	-67169(10)	-2.2	2008BA54: PRL 101, 262501
72Se	0	8.40 d	0+	-67730(120)	-67894(12)	164	2008GO23: PR-C 78, 014311
72Zn	0	46.5 h	0+	-68145.4(21)	-68131(6)	-14	2008BA54: PRL 101, 262501
73Zn	0	23.5 s	(1/2)-	-65593.4(19)	-65410(40)	-183	2008BA54: PRL 101, 262501
74Zn	0	95.6 s	0+	-65756.7(25)	-65710(50)	-47	2008BA54: PRL 101, 262501
75Zn	0	10.2 s	7/2+sys	-62558.9(19)	-62470(70)	-89	2008BA54: PRL 101, 262501
76Kr	0	14.8 h	0+	-69000(55)	-69014(4)	14	2008GO23: PR-C 78, 014311
76Rb	0	36.5 s	1(-)	-60240(190)	-60479.8(19)	240	2008GO23: PR-C 78, 014311
76Zn	0	5.7 s	0+	-62302.5(18)	-62140(80)	-162	2008BA54: PRL 101, 262501
77Zn	0	2.08 s	7/2+sys	-58789.1(23)	-58720(120)	-69	2008BA54: PRL 101, 262501
78Zn	0	1.47 s	0+	-57483.4(28)	-57340(90)	-143	2008BA54: PRL 101, 262501
79Ga	0	2.847 s	3/2-sys	-62470(120)	-62510(100)	40	2008SU19: NP-A 812, 1
79Zn	0	995 ms	(9/2+)	-53435.1(39)	-53420(260)sys	-15	2008BA54: PRL 101, 262501
80Ga	0	1.697 s	(3)	-59095(120)	-59140(120)	45	2008SU19: NP-A 812, 1
80Sr	0	106.3 min	0+	-70360(70)	-70308(7)	-52	2008GO23: PR-C 78, 014311
80Y	0	30.1 s	4-	-61045(180)	-61220(180)	175	2008GO23: PR-C 78, 014311
80Zn	0	545 ms	0+	-51648.3(28)	-51840(170)	192	2008BA54: PRL 101, 262501
81Zn	0	290 ms	5/2+sys	-46199.6(50)	-46130(300)sys	-70	2008BA54: PRL 101, 262501
82Ge	0	4.55 s	0+	-65577(120)	-65620(240)	43	2008SU19: NP-A 812, 1
83As	0	13.4 s	3/2-sys	-69561(120)	-69880(200)	319	2008SU19: NP-A 812, 1
83Ge	0	1.85 s	5/2+sys	-60804(120)	-60900(200)sys	96	2008SU19: NP-A 812, 1
84As	0 (+m)	4.02 s	(3)(+sys)	-65869(119)*	-66080(300)sys	211	2008SU19: NP-A 812, 1
84Y	0 (+m)	4.6 s	1+	-73922(19)**	-74160(90)	238	2008WE10: PR-C 78, 054310
85As	0	2.021 s	3/2-sys	-63236(120)	-63320(200)sys	84	2008SU19: NP-A 812, 1
86As	0	945 ms		-58860(120)	-59150(300)sys	290	2008SU19: NP-A 812, 1
86Se	0	15.3 s	0+	-70516(119)	-70541(16)	25	2008SU19: NP-A 812, 1
87Se	0	5.50 s	5/2+sys	-66469(119)	-66580(40)	111	2008SU19: NP-A 812, 1
87Zr	0	1.68 h	(9/2)+	-79341.4(53)	-79348(8)	7	2008WE10: PR-C 78, 054310
88Br	0 (+m)	16.36 s	(2-,1+)	-70629(120)*	-70730(40)	101	2008SU19: NP-A 812, 1
88Mo	0	8.0 min	0+	-72686.5(38)	-72700(20)	-14	2008WE10: PR-C 78, 054310
88Se	0	1.53 s	0+	-63859(120)	-63880(50)	21	2008SU19: NP-A 812, 1
88Tc	0 (+m)	5.8 s	(2,3)	-61679(87)@	-62710(200)sys	1031	2008WE10: PR-C 78, 054310
89Mo	0	2.11 min	(9/2+)	-75015.0(39)	-75004(15)	-11	2008WE10: PR-C 78, 054310
89Se	0	410 ms	5/2+sys	-58955(120)	-59200(300)sys	245	2008SU19: NP-A 812, 1
89Tc	0	12.8 s	(9/2+)	-67394.8(37)	-67840(200)sys	445	2008WE10: PR-C 78, 054310
90Ru	0	11 s	0+	-64883.3(40)	-65310(300)sys	427	2008WE10: PR-C 78, 054310
90Tc	0	8.7 s	1+	-70723.7(34)	-71210(240)	486	2008WE10: PR-C 78, 054310
91Ru	0	9 s	(9/2+)	-68237.1(29)	-68660(580)sys	423	2008WE10: PR-C 78, 054310
91Tc	0	3.14 min	(9/2)+	-75984.8(33)	-75980(200)	-5	2008WE10: PR-C 78, 054310
92Rh	0	4.3 s	(6+)	-62998.6(43)	-63360(400)sys	361	2008KA30: PRL 101,142503
92Rh	0 (+m)	4.3 s	(6+)	-62999(15)&	-63360(400)sys	361	2008WE10: PR-C 78, 054310
92Ru	0	3.65 min	0+	-74306.7(46)	-74410(300)sys	103	2008FA11: PR-C 78, 022801(R)
92Ru	0	3.65 min	0+	-74299.0(32)	-74410(300)sys	111	2008WE10: PR-C 78, 054310
92Tc	0	4.25 min	(8)+	-78924.7(37)	-78935(26)	10	2008WE10: PR-C 78, 054310
93Pd	0	1.07 s	(9/2+)	-59440(160)	-59700(400)sys	260	2008KA30: PRL 101,142503
93Rh	0	13.9 s	9/2+sys	-69024.6(74)	-69170(400)sys	145	2008FA11: PR-C 78, 022801(R)
93Rh	0	13.9 s	9/2+sys	-69011.3(39)	-69170(400)sys	159	2008WE10: PR-C 78, 054310
93Ru	0	59.7 s	(9/2)+	-77214.0(40)	-77270(90)	56	2008WE10: PR-C 78, 054310
94Ag	0	37 ms	0+sys	-53330(360)	-53300(500)sys	-30	2008KA30: PRL 101,142503
94Pd	0	9.0 s	0+	-66097.9(47)	-66350(400)sys	252	2008KA30: PRL 101,142503
94Pd	0	9.0 s	0+	-66097.9(42)	-66350(400)sys	252	2008WE10: PR-C 78, 054310
94Rh	0	70.6 s	(2+,4+)	-72907.5(42)	-72940(450)sys	33	2008WE10: PR-C 78, 054310
94Ru	0	51.8 min	0+	-82580.6(41)	-82568(13)	-13	2008WE10: PR-C 78, 054310
95Pd	0	10 s sys	9/2+sys	-69961.6(48)	-70150(400)sys	188	2008WE10: PR-C 78, 054310
95Pd	1875(7)‡	13.3 s	(21/2+)	-68086.2(47)	-68290(300)	204	2008WE10: PR-C 78, 054310
95Rh	0	5.02 min	(9/2)+	-78342.3(42)	-78340(150)	-2	2008WE10: PR-C 78, 054310
96Pd	0	122 s	0+	-76179.0(47)	-76230(150)	51	2008WE10: PR-C 78, 054310

95Pd	1875(7)#	13.3 s	(21/2+)	-68086.2(47)	-68290(300)	204	2008WE10: PR-C 78, 054310
95Rh	0	5.02 min	(9/2)+	-78342.3(42)	-78340(150)	-2	2008WE10: PR-C 78, 054310
96Pd	0	122 s	0+	-76179.0(47)	-76230(150)	51	2008WE10: PR-C 78, 054310
100Y	0 (+m)	735 ms	1-,2-	-67264(119)*	-67290(80)	26	2008SU19: NP-A 812, 1
113Ru	0 (+m)	800 ms	(5/2+)	-71931(120)*	-72200(70)	269	2008SU19: NP-A 812, 1
122Ag	0 (+m)	520 ms	(3+)	-71065(120)*	-71230(210)sys	165	2008SU19: NP-A 812, 1
123Ag	0	296 ms	(7/2+)	-69377(121)	-69960(210)sys	583	2008SU19: NP-A 812, 1
125Cd	0 (+m)	650 ms	3/2+sys	-73287(120)*	-73360(70)	73	2008SU19: NP-A 812, 1
131Sn	0 (+m)	56.0 s	(3/2+)	-77238(120)*	-77314(21)	76	2008SU19: NP-A 812, 1
132Sb	0 (+m)	2.79 min	(4+)	-79870(124)*	-79674(14)	-196	2008SU19: NP-A 812, 1
133Sb	0	2.5 min	(7/2+)	-78986(120)	-78943(25)	-43	2008SU19: NP-A 812, 1
134Te	0	41.8 min	0+	-82758(121)	-82559(11)	-199	2008SU19: NP-A 812, 1
135Sb	0	1.68 s	(7/2+)	-69809(121)	-69710(100)	-99	2008SU19: NP-A 812, 1
135Te	0	19.0 s	(7/2-)	-77725(123)	-77830(90)	105	2008SU19: NP-A 812, 1
137I	0	24.13 s	(7/2+)	-76518(121)	-76503(28)	-15	2008SU19: NP-A 812, 1
137Te	0	2.49 s	3/2-sys	-69290(120)	-69560(120)	270	2008SU19: NP-A 812, 1
138Te	0	1.4 s	0+	-65755(122)	-65930(210)sys	175	2008SU19: NP-A 812, 1
139I	0	2.282 s	7/2+sys	-68527(121)	-68840(30)	313	2008SU19: NP-A 812, 1
140I	0	860 ms	(3)(-sys)	-63596(121)	-64270(200)sys	676	2008SU19: NP-A 812, 1
140Xe	0	13.60 s	0+	-72870(121)	-72990(60)	120	2008SU19: NP-A 812, 1
141I	0	430 ms	7/2+sys	-60301(128)	-60520(200)sys	219	2008SU19: NP-A 812, 1
141Xe	0	1.73 s	5/2 (-sys)	-68521(127)	-68330(90)	-191	2008SU19: NP-A 812, 1
143Xe	0	511 ms	5/2-	-60253(124)	-60450(200)sys	197	2008SU19: NP-A 812, 1
146Ba	0	2.22 s	0+	-65170(131)	-65000(70)	-170	2008SU19: NP-A 812, 1

sys Systematics in AME-2003
(+m) Mass measurement possibly contains mixture of g.s.+isomer state.
From mass measurements in 2008We10; 1875.7(6) in high-spin work of 2003Ma24: PR-C 67, 061301(R) (2003)
* Value is for possible unresolved ground state and isomer.
@ Original uncertainty of 3.8 keV increased by authors for unknown mixture of g.s. and isomer.
& Original uncertainty of 4.3 keV increased by authors for unknown mixture of g.s. and isomer.
** Original value of -73888.8(52) revised by the authors for unknown mixture of g.s. and isomer.