

*Texas A&M University*  
*US Nuclear Data Program*

***TAMU NSDD CENTER***

***Report 2020***

*N. Nica*

*J.C. Hardy*

# *Evaluation of Nuclear Structure and Decay Data*

## *OVERVIEW*

- *Scope:*
  - *Promote and accomplish mass-chain nuclear structure data evaluation at Texas A&M University - Cyclotron Institute as regular activity and foresee future developments.*
  - *Address gaps in data through targeted experiments*
- *2005-2017: under contract with BNL/NNDC*
  - *67% FTE Mass Chain Evaluation*
  - *N. Nica (PI, evaluator), J.C. Hardy (scientific adviser)*
- *2018-2020: NSDD Data Center*
  - *FY18: 67% FTE Mass Chain Evaluation*
  - *FY19-20: 100% FTE Mass Chain Evaluation*
  - *N. Nica (PI, evaluator), J.C. Hardy (retiree, scientific adviser)*

# *Texas A&M - Cyclotron Institute*

## *Contributions*

- *Major Direct Contribution to USNDP/NSDD: Nuclear Data Evaluation*
  - *16 major publications*
- *Important Contribution to USNDP/NSDD: Precision ICC Measurements*
  - *BrIcc adopted the “Frozen Orbitals” calculations*
  - *$^{93}\text{Nb}$ ,  $^{103}\text{Rh}$ ,  $^{125}\text{Te}$ ,  $^{127}\text{Te}$ ,  $^{111}\text{Cd}$ ,  $^{119}\text{Sn}$ ,  $^{134}\text{Cs}$ ,  $^{137}\text{Ba}$ ,  $^{191}\text{Os}$ ,  $^{193}\text{Ir}$ ,  $^{197}\text{Pt}$*
  - *17 major publications*
- *Texas A&M Contribution to Precision Nuclear Data Production: Precision  $\beta$ - $\gamma$  Measurements (Standard Model, CKM matrix)*
  - *$T_{1/2}$ , Branching Ratios, Efficiency calibration*
  - *21 major publications*
- *Texas A&M Medical Radioisotopes*
  - *$^{67}\text{Cu}$ ,  $^{99}\text{Mo}$*
  - *1 major publication*

# Mass Chain Evaluation: 280 nuclei, 20 A-chains

- 1. [N.Nica](#), *Nuclear Data Sheets for A = 252*, Nucl.Data Sheets 106, 813 (2005)  
8 nuclei: <sup>252</sup>Cm, <sup>252</sup>Bk, <sup>252</sup>Cf, <sup>252</sup>Es, <sup>252</sup>Fm, <sup>252</sup>Md, <sup>252</sup>No, <sup>252</sup>Lr
- 2. [N.Nica](#), *Nuclear Data Sheets for A = 140*, Nucl.Data Sheets 108, 1287 (2007)  
16 nuclei: <sup>140</sup>Te, <sup>140</sup>I, <sup>140</sup>Xe, <sup>140</sup>Cs, <sup>140</sup>Ba, <sup>140</sup>La, <sup>140</sup>Ce, <sup>140</sup>Pr, <sup>140</sup>Nd, <sup>140</sup>Pm, <sup>140</sup>Sm, <sup>140</sup>Eu, <sup>140</sup>Gd, <sup>140</sup>Tb, <sup>140</sup>Dy, <sup>140</sup>Ho
- 3. [D.Aabriola et al.](#), *Nuclear Data Sheets for A = 84*, Nucl.Data Sheets 110, 2815 (2009)  
1 nucleus: <sup>84</sup>Y
- 4. [N.Nica](#), *Nuclear Data Sheets for A = 147*, Nucl.Data Sheets 110, 749 (2009)  
16 nuclei: <sup>147</sup>Xe, <sup>147</sup>Cs, <sup>147</sup>Ba, <sup>147</sup>La, <sup>147</sup>Ce, <sup>147</sup>Pr, <sup>147</sup>Nd, <sup>147</sup>Pm, <sup>147</sup>Sm, <sup>147</sup>Eu, <sup>147</sup>Gd, <sup>147</sup>Tb, <sup>147</sup>Dy, <sup>147</sup>Ho, <sup>147</sup>Er, <sup>147</sup>Tm
- 5. [N.Nica](#), *Nuclear Data Sheets for A = 97*, Nucl.Data Sheets 111, 525 (2010)  
14 nuclei: <sup>97</sup>Br, <sup>97</sup>Kr, <sup>97</sup>Rb, <sup>97</sup>Sr, <sup>97</sup>Y, <sup>97</sup>Zr, <sup>97</sup>Nb, <sup>97</sup>Mo, <sup>97</sup>Tc, <sup>97</sup>Ru, <sup>97</sup>Rh, <sup>97</sup>Pd, <sup>97</sup>Ag, <sup>97</sup>Cd
- 6. [J.Cameron, J.Chen, B.Singh, N.Nica](#), *Nuclear Data Sheets for A = 37*, Nucl.Data Sheets 113, 365 (2012)  
10 nuclei: <sup>37</sup>Na, <sup>37</sup>Mg, <sup>37</sup>Al, <sup>37</sup>Si, <sup>37</sup>P, <sup>37</sup>S, <sup>37</sup>Cl, <sup>37</sup>Ar, <sup>37</sup>K, <sup>37</sup>Ca
- 7. [N.Nica, J.Cameron, B.Singh](#), *Nuclear Data Sheets for A = 36*, Nucl.Data Sheets 113, 1 (2012)  
10 nuclei: <sup>36</sup>Na, <sup>36</sup>Mg, <sup>36</sup>Al, <sup>36</sup>Si, <sup>36</sup>P, <sup>36</sup>S, <sup>36</sup>Cl, <sup>36</sup>Ar, <sup>36</sup>K, <sup>36</sup>Ca
- 8. [N.Nica, B.Singh](#), *Nuclear Data Sheets for A = 34*, Nucl.Data Sheets 113, 1563 (2012)  
11 nuclei: <sup>34</sup>Ne, <sup>34</sup>Na, <sup>34</sup>Mg, <sup>34</sup>Al, <sup>34</sup>Si, <sup>34</sup>P, <sup>34</sup>S, <sup>34</sup>Cl, <sup>34</sup>Ar, <sup>34</sup>K, <sup>34</sup>Ca
- 9. [B.Singh, N.Nica](#), *Nuclear Data Sheets for A = 77*, Nucl.Data Sheets 113, 1115 (2012)  
12 nuclei: <sup>77</sup>Ni, <sup>77</sup>Cu, <sup>77</sup>Zn, <sup>77</sup>Ga, <sup>77</sup>Ge, <sup>77</sup>As, <sup>77</sup>Se, <sup>77</sup>Br, <sup>77</sup>Kr, <sup>77</sup>Rb, <sup>77</sup>Sr, <sup>77</sup>Y
- 10. [N.Nica](#), *Nuclear Data Sheets for A = 148*, Nucl.Data Sheets 117, 1 (2014)  
16 nuclei: <sup>148</sup>Xe, <sup>148</sup>Cs, <sup>148</sup>Ba, <sup>148</sup>La, <sup>148</sup>Ce, <sup>148</sup>Pr, <sup>148</sup>Nd, <sup>148</sup>Pm, <sup>148</sup>Sm, <sup>148</sup>Eu, <sup>148</sup>Gd, <sup>148</sup>Tb, <sup>148</sup>Dy, <sup>148</sup>Ho, <sup>148</sup>Er, <sup>148</sup>Tm
- 11. [N.Nica](#), *Nuclear Data Sheets for A = 141*, Nucl.Data Sheets 122, 1 (2014)  
16 nuclei: <sup>141</sup>Te, <sup>141</sup>I, <sup>141</sup>Xe, <sup>141</sup>Cs, <sup>141</sup>Ba, <sup>141</sup>La, <sup>141</sup>Ce, <sup>141</sup>Pr, <sup>141</sup>Nd, <sup>141</sup>Pm, <sup>141</sup>Sm, <sup>141</sup>Eu, <sup>141</sup>Gd, <sup>141</sup>Tb, <sup>141</sup>Dy, <sup>141</sup>Ho
- 12. [N.Nica](#), *Nuclear Data Sheets for A = 157*, Nucl.Data Sheets 132, 1 (2016)  
15 nuclei: <sup>157</sup>Nd, <sup>157</sup>Pm, <sup>157</sup>Sm, <sup>157</sup>Eu, <sup>157</sup>Gd, <sup>157</sup>Tb, <sup>157</sup>Dy, <sup>157</sup>Ho, <sup>157</sup>Er, <sup>157</sup>Tm, <sup>157</sup>Yb, <sup>157</sup>Lu, <sup>157</sup>Hf, <sup>157</sup>Ta, <sup>157</sup>W
- 13. [N.Nica](#), *Nuclear Data Sheets for A = 158*, Nucl.Data Sheets 141, 1 (2017)  
15 nuclei: <sup>158</sup>Nd, <sup>158</sup>Pm, <sup>158</sup>Sm, <sup>158</sup>Eu, <sup>158</sup>Gd, <sup>158</sup>Tb, <sup>158</sup>Dy, <sup>158</sup>Ho, <sup>158</sup>Er, <sup>158</sup>Tm, <sup>158</sup>Yb, <sup>158</sup>Lu, <sup>158</sup>Hf, <sup>158</sup>Ta, <sup>158</sup>W
- 14. [N.Nica](#), *Nuclear Data Sheets for A = 140*, Nucl.Data Sheets – Nucl.Data Sheets 154, 1 (2018)  
17 nuclei: <sup>140</sup>Sb, <sup>140</sup>Te, <sup>140</sup>I, <sup>140</sup>Xe, <sup>140</sup>Cs, <sup>140</sup>Ba, <sup>140</sup>La, <sup>140</sup>Ce, <sup>140</sup>Pr, <sup>140</sup>Nd, <sup>140</sup>Pm, <sup>140</sup>Sm, <sup>140</sup>Eu, <sup>140</sup>Gd, <sup>140</sup>Tb, <sup>140</sup>Dy, <sup>140</sup>Ho
- 15. [N.Nica](#), *A=155, Nuclear Data Sheets for A = 155*, Nucl.Data Sheets 160, 1 (2019)  
16 nuclei: <sup>155</sup>Ce, <sup>155</sup>Pr, <sup>155</sup>Nd, <sup>155</sup>Pm, <sup>155</sup>Sm, <sup>155</sup>Eu, <sup>155</sup>Gd, <sup>155</sup>Tb, <sup>155</sup>Dy, <sup>155</sup>Ho, <sup>155</sup>Er, <sup>155</sup>Tm, <sup>155</sup>Yb, <sup>155</sup>Lu, <sup>155</sup>Hf, <sup>155</sup>Ta
- 16. [N.Nica](#), *A=160, Nuclear Data Sheets for A = 160*, Nucl.Data Sheets – *in review (with evaluator)*  
17 nuclei: <sup>160</sup>Pr, <sup>160</sup>Nd, <sup>160</sup>Pm, <sup>160</sup>Sm, <sup>160</sup>Eu, <sup>160</sup>Gd, <sup>160</sup>Tb, <sup>160</sup>Dy, <sup>160</sup>Ho, <sup>160</sup>Er, <sup>160</sup>Tm, <sup>160</sup>Yb, <sup>160</sup>Lu, <sup>160</sup>Hf, <sup>160</sup>Ta, <sup>160</sup>W, <sup>160</sup>Re
- 17. [N.Nica](#), *A=153, Nuclear Data Sheets for A = 153*, Nucl.Data Sheets – *in print* Nucl.Data Sheets, Dec (2020)  
16 nuclei: <sup>153</sup>La, <sup>153</sup>Ce, <sup>153</sup>Pr, <sup>153</sup>Nd, <sup>153</sup>Pm, <sup>153</sup>Sm, <sup>153</sup>Eu, <sup>153</sup>Gd, <sup>153</sup>Tb, <sup>153</sup>Dy, <sup>153</sup>Ho, <sup>153</sup>Er, <sup>153</sup>Tm, <sup>153</sup>Yb, <sup>153</sup>Lu, <sup>153</sup>Hf
- 18. [N.Nica](#), *Nuclear Data Sheets for A = 147 – submitted to NNDC (FY19)*  
16 nuclei: <sup>147</sup>Xe, <sup>147</sup>Cs, <sup>147</sup>Ba, <sup>147</sup>La, <sup>147</sup>Ce, <sup>147</sup>Pr, <sup>147</sup>Nd, (<sup>147</sup>Pm Balraj Singh), <sup>147</sup>Sm, <sup>147</sup>Eu, <sup>147</sup>Gd, <sup>147</sup>Tb, <sup>147</sup>Dy, <sup>147</sup>Ho, <sup>147</sup>Er, <sup>147</sup>Tm
- 19. [N.Nica](#), *Nuclear Data Sheets for A = 141 – submitted to NNDC (FY20)*  
17 nuclei: <sup>141</sup>Sb, <sup>141</sup>Te, <sup>141</sup>I, <sup>141</sup>Xe, <sup>141</sup>Cs, <sup>141</sup>Ba, <sup>141</sup>La, <sup>141</sup>Ce, <sup>141</sup>Pr, <sup>141</sup>Nd, <sup>141</sup>Pm, <sup>141</sup>Sm, <sup>141</sup>Eu, <sup>141</sup>Gd, <sup>141</sup>Tb, <sup>141</sup>Dy, <sup>141</sup>Ho

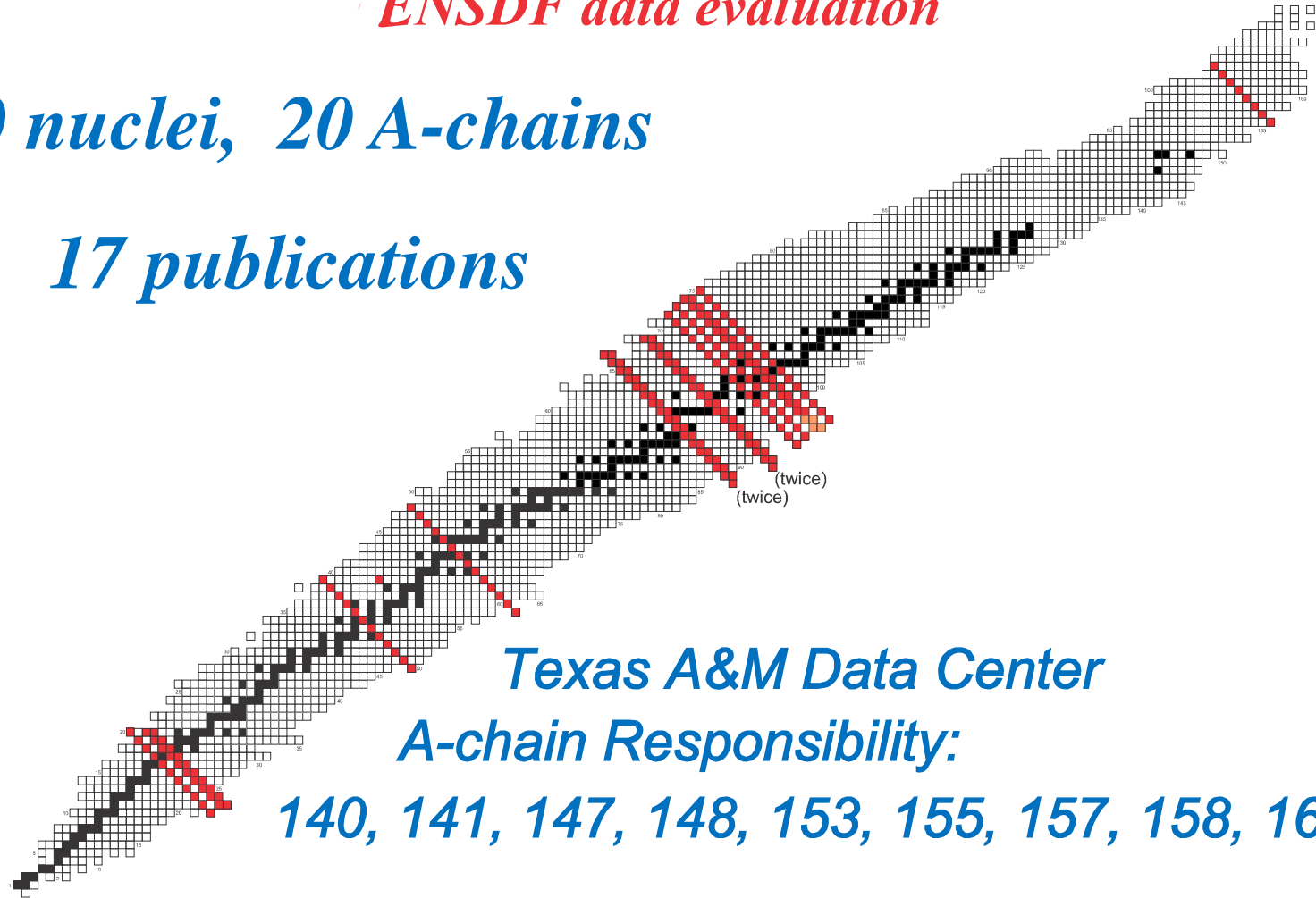
# Mass Chain Evaluation: 280 nuclei, 20 A-chains

- 16. [N.Nica](#), A =160, *Nuclear Data Sheets for A = 160, Nucl.Data Sheets – in review (with evaluator)*  
17 nuclei:  $^{160}\text{Pr}$ ,  $^{160}\text{Nd}$ ,  $^{160}\text{Pm}$ ,  $^{160}\text{Sm}$ ,  $^{160}\text{Eu}$ ,  $^{160}\text{Gd}$ ,  $^{160}\text{Tb}$ ,  $^{160}\text{Dy}$ ,  $^{160}\text{Ho}$ ,  $^{160}\text{Er}$ ,  $^{160}\text{Tm}$ ,  $^{160}\text{Yb}$ ,  $^{160}\text{Lu}$ ,  $^{160}\text{Hf}$ ,  $^{160}\text{Ta}$ ,  $^{160}\text{W}$ ,  $^{160}\text{Re}$
- 18. [N.Nica](#), *Nuclear Data Sheets for A = 147 – in review (with evaluator)*  
16 nuclei:  $^{147}\text{Xe}$ ,  $^{147}\text{Cs}$ ,  $^{147}\text{Ba}$ ,  $^{147}\text{La}$ ,  $^{147}\text{Ce}$ ,  $^{147}\text{Pr}$ ,  $^{147}\text{Nd}$ , ( $^{147}\text{Pm}$  Balraj Singh),  $^{147}\text{Sm}$ ,  $^{147}\text{Eu}$ ,  $^{147}\text{Gd}$ ,  $^{147}\text{Tb}$ ,  $^{147}\text{Dy}$ ,  $^{147}\text{Ho}$ ,  $^{147}\text{Er}$ ,  $^{147}\text{Tm}$
- 19. [N.Nica](#), *Nuclear Data Sheets for A = 141 – submitted to NNDC (FY20)*  
17 nuclei:  $^{141}\text{Sb}$ ,  $^{141}\text{Te}$ ,  $^{141}\text{I}$ ,  $^{141}\text{Xe}$ ,  $^{141}\text{Cs}$ ,  $^{141}\text{Ba}$ ,  $^{141}\text{La}$ ,  $^{141}\text{Ce}$ ,  $^{141}\text{Pr}$ ,  $^{141}\text{Nd}$ ,  $^{141}\text{Pm}$ ,  $^{141}\text{Sm}$ ,  $^{141}\text{Eu}$ ,  $^{141}\text{Gd}$ ,  $^{141}\text{Tb}$ ,  $^{141}\text{Dy}$ ,  $^{141}\text{Ho}$
- 20. [N.Nica](#), *Nuclear Data Sheets for A = 162 – in progress (FY21)*  
17 nuclei:  $^{162}\text{Nd}$ ,  $^{162}\text{Pm}$ ,  $^{162}\text{Sm}$ ,  $^{162}\text{Eu}$ ,  $^{162}\text{Gd}$ ,  $^{162}\text{Tb}$ ,  $^{162}\text{Dy}$ ,  $^{162}\text{Ho}$ ,  $^{162}\text{Er}$ ,  $^{162}\text{Tm}$ ,  $^{162}\text{Yb}$ ,  $^{162}\text{Lu}$ ,  $^{162}\text{Hf}$ ,  $^{162}\text{Ta}$ ,  $^{162}\text{W}$ ,  $^{162}\text{Re}$ ,  $^{162}\text{Os}$ ,

*V. Our accomplishments*  
*ENSDF data evaluation*

*280 nuclei, 20 A-chains*

*17 publications*



*Texas A&M Data Center*

*A-chain Responsibility:*

*140, 141, 147, 148, 153, 155, 157, 158, 160*

# *Texas A&M - Cyclotron Institute*

- *ICC Precision Measurements*

- *Published  $^{93m}\text{Nb}$  ICC (PRC)*

- *Last ICC measurement in the series of 10*

- *Completed 10 ICC measurements*

*Hole FO calculations adopted by USNDP,  
NSDD, DDEP*

# *Texas A&M - Cyclotron Institute*

## ■ *$\beta$ - $\gamma$ Precision Measurements*

- *New precise half-life measurement for the superallowed  $\beta^+$  emitter  $^{34}\text{Ar}$ , published in *Phys.Rev. C 101, 015504 (2020)**

- *Precise  $\beta$  branching-ratio measurement for the  $0^+ \rightarrow 0^+$  superallowed decay of  $^{34}\text{Ar}$ , published in *Phys.Rev. C 101, 045501 (2020)**

## ■ *Medical Isotopes*

- *K500 Cyclotron - MARS :  $^{67}\text{Cu}$  published in *Appl.Radiat.Isot. 149, 89 (2019)**

- *K500 Cyclotron - MARS :  $^{99}\text{Mo}$  test run analysis in progress*



# Texas A&M - Cyclotron Institute, FY2020:

- 15. [N.Nica](#), *Nuclear Data Sheets for A =153*, Nucl.Data Sheets (2020) (Dec) *FY2018*  
17 nuclei:  $^{153}\text{Ba}$ ,  $^{153}\text{La}$ ,  $^{153}\text{Ce}$ ,  $^{153}\text{Pr}$ ,  $^{153}\text{Nd}$ ,  $^{153}\text{Pm}$ ,  $^{153}\text{Sm}$ ,  $^{153}\text{Eu}$ ,  $^{153}\text{Gd}$ ,  $^{153}\text{Tb}$ ,  $^{153}\text{Dy}$ ,  
 $^{153}\text{Ho}$ ,  $^{153}\text{Er}$ ,  $^{153}\text{Tm}$ ,  $^{153}\text{Yb}$ ,  $^{153}\text{Lu}$ ,  $^{153}\text{Hf}$
- 19. [N.Nica](#), *A = 141 – Submitted FY2020*  
17 nuclei:  $^{141}\text{Sb}$ ,  $^{141}\text{Te}$ ,  $^{141}\text{I}$ ,  $^{141}\text{Xe}$ ,  $^{141}\text{Cs}$ ,  $^{141}\text{Ba}$ ,  $^{141}\text{La}$ ,  $^{141}\text{Ce}$ ,  $^{141}\text{Pr}$ ,  $^{141}\text{Nd}$ ,  $^{141}\text{Pm}$ ,  
 $^{141}\text{Sm}$ ,  $^{141}\text{Eu}$ ,  $^{141}\text{Gd}$ ,  $^{141}\text{Tb}$ ,  $^{141}\text{Dy}$ ,  $^{141}\text{Ho}$
- Review: *A = 212*, Review of full mass chain evaluation  
12 nuclei:  $^{212}\text{Hg}$ ,  $^{212}\text{Tl}$ ,  $^{212}\text{Pb}$ ,  $^{212}\text{Bi}$ ,  $^{212}\text{Po}$ ,  $^{212}\text{At}$ ,  $^{212}\text{Rn}$ ,  $^{212}\text{Fr}$ ,  $^{212}\text{Ra}$ ,  $^{212}\text{Ac}$ ,  $^{212}\text{Th}$ ,  
 $^{212}\text{Pa}$
- 16. [N.Nica](#), *A =160 – With evaluator, FY2017*  
17 nuclei:  $^{160}\text{Pr}$ ,  $^{160}\text{Nd}$ ,  $^{160}\text{Pm}$ ,  $^{160}\text{Sm}$ ,  $^{160}\text{Eu}$ ,  $^{160}\text{Gd}$ ,  $^{160}\text{Tb}$ ,  $^{160}\text{Dy}$ ,  $^{160}\text{Ho}$ ,  $^{160}\text{Er}$ ,  $^{160}\text{Tm}$ ,  
 $^{160}\text{Yb}$ ,  $^{160}\text{Lu}$ ,  $^{160}\text{Hf}$ ,  $^{160}\text{Ta}$ ,  $^{160}\text{W}$ ,  $^{160}\text{Re}$
- 18. [N.Nica](#), *A = 147 – With evaluator, FY2019*  
16 nuclei:  $^{147}\text{I}$ ,  $^{147}\text{Xe}$ ,  $^{147}\text{Cs}$ ,  $^{147}\text{Ba}$ ,  $^{147}\text{La}$ ,  $^{147}\text{Ce}$ ,  $^{147}\text{Pr}$ ,  $^{147}\text{Nd}$ , ( $^{147}\text{Pm-NO}$ ),  $^{147}\text{Sm}$ ,  
 $^{147}\text{Eu}$ ,  $^{147}\text{Gd}$ ,  $^{147}\text{Tb}$ ,  $^{147}\text{Dy}$ ,  $^{147}\text{Ho}$ ,  $^{147}\text{Er}$ ,  $^{147}\text{Tm}$

# *Texas A&M - Cyclotron Institute, FY2019*

## *Mass chain evaluations: Statistics*

	<b>A=160</b> Evaluation	<b>A=147</b> Evaluation (-BS)	<b>A=141</b> Evaluation	<b>A=153</b> Evaluation Before review	<b>A=153</b> Evaluation After review	<b>A=162</b> Evaluation (before eval) (BNL)	<b>A=148</b> Evaluation (before eval)	<b>A=212</b> Review
<b>Number of Adopted Levels</b>	1216	1318	1069	1459	1532 (+5.0%)	1068	1219	344
<b>Number of Adopted Gammas</b>	2391	2168	1886	2507	2983 (+19.0%)	1675	1937	464
<b>Number of nuclides</b>	17	16	17	17	17	17	16	12
<b>Number of datasets</b>	78	81	97	94	95	77	92	49
<b>Number of lines</b>	21212	20510	17434	23808	26629 (+11.8%)	18023	17932	6864

# *Mass chains: Review, Updates & Editorial*

## *Mass Chain A153: FY2018*

<b>.ens database file</b>	<b>Number of Publications</b>	<b>Increment</b>	<b>CUT Date</b>
A153_old	460		31-Dec-2005
A153_new	485	+25	1-Mar-2017
A153_upd.arv	490	+5	16-Aug-2020, <b>+2y10m</b>

## *Mass Chain A155: FY2016*

<b>.ens database file</b>	<b>Number of Publications</b>	<b>Increment</b>	<b>CUT Date</b>
A155_old	339		1-Jan-2004
A155_new	368	+29	26-Jan-2016
A155_upd.arv	391	+23	21-Oct-2019, <b>+3y9m</b>

# *Texas A&M - Cyclotron Institute, FY2020 Publications*

## Publications USNDP 2020 N. Nica TAMU

- **2020NIZZ** Nucl.Data Sheets *Dec (2020)*  
N.Nica  
*Nuclear Data Sheets for A=153*
- **2020HO10** Phys.Rev. C 102, 014310 (2020)  
V.Horvat, E.E.Tereshatov, J.C.Hardy, N.Nica, C.M.Folden, V.E.Iacob, M.B.Trzhaskovskaya  
*K-shell internal conversion coefficient for M4 decay of the 30.8 keV isomer in <sup>93</sup>Nb*
- **2020IA01** Phys.Rev. C 101, 015504 (2020)  
V.E.Iacob, J.C.Hardy, H.I.Park, M.Bencomo, L.Chen, V.Horvat, N.Nica, B.T.Roeder, A.Saastamoinen  
*New precise half-life measurement for the superallowed  $\beta^+$  emitter <sup>34</sup>Ar*
- **2020IA02** Phys.Rev. C 101, 045501 (2020)  
V.E.Iacob, J.C.Hardy, H.I.Park, M.Bencomo, L.Chen, V.Horvat, N.Nica, B.T.Roeder, A.Saastamoinen, I.S.Towner  
*Precise  $\beta$  branching-ratio measurement for the  $0^+ \rightarrow 0^+$  superallowed decay of <sup>34</sup>Ar*
- **2020DIZW** Proc.Intern.Conf.Nuclear Data for Science and Technology (ND2019), Beijing, China, May 19-24, 2019, Z.Ge, et al. Eds., p.15004 (2020);EPJ Web of Conf.Vol.239 (2020)  
P.Dimitriou, S.Basunia, L.Bernstein, J.Chen, Z.Elekes, X.Huang, A.Hurst, H.Iimura, A.K.Jain, J.Kelley, T.Kibedi, F.Kondev, S.Lalkovski, E.McCutchan, I.Mitropolsky, G.Mukherjee, A.Negret, C.Nesaraja, N.Nica, S.Pascu, A.Rodionov, B.Singh, S.Singh, M.Smith, A.Sonzogni, J.Timar, J.Tuli, M.Verpelli, D.Yang, V.Zerkin  
*International network of nuclear structure and decay data evaluators*

# *Texas A&M - Cyclotron Institute, FY2020 Conferences*

## Conferences USNDP 2020 N. Nica TAMU

- United States Nuclear Data Program Annual Meeting  
“Precise  $\alpha_K$  and  $\alpha_T$  Internal Conversion Coefficients Measurements of 30.77(6)-keV M4 Transition in  $^{93m}\text{Nb}$ : Last Test of Internal Conversion Theory”  
Brookhaven National Laboratory, New York, Nov 7 – 8, 2019
- United States Nuclear Data Program Annual Meeting  
“Texas A&M University US Nuclear Data Program NSDD Center Report FY2019”  
Brookhaven National Laboratory, New York, Nov 7 – 8, 2019

# *Texas A&M - Cyclotron Institute*

## *FY 2021*

- *A-chain evaluation FTE: 100%*
- *A=162 full mass chain evaluation*
- *Review*
- *Xundl*
- *3 big A-chains in the publication pipe!*
  - *A=160 with evaluator*
  - *A=147 with evaluator*
  - *A=141 with reviewer*

# ***A-Chain Evaluation Responsibility @Texas A&M University***

- ***Responsibility:***

***140, 141, 147, 148, 153, 155, 157, 158, 160***

- ***Status:***

- ✓ ***153 (Aug 2020)***

- ✓ ***155 (Oct-2019)***

- ✓ ***140 (Nov 2018)***

- ✓ ***158 (Feb 2017)***

- ✓ ***157 (Dec 2015)***

- ***147 (Nov-2018 – with evaluator)***

- ***160 (Aug 2018 – with evaluator)***

- ***141 (Sept 2020 – with reviewer)***

- ***FY2021: 162 (Mar 2007 – in progress)***

- ***FY2022: 154 (May 2008) or 148 (Oct 2013)***

***OBS.: 162 and 154 are NOT TAMU RESPONSABILITY***

# *Texas A&M Nuclear Data Program under DOE Grant and NSDD Data Center*

## *Promoting Scientific Research Programs related to data evaluation:*

- Possible Follow-up of ICC Measurements*
- Medical Isotopes Production Tests*
- Promoting original research ideas from  
reevaluating existing data !*