## $^{147}$Er εp decay 2010Ma20

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Yu. Khazov, A. Rodionov and G. Shulyak | NDS 136, 163 (2016) | 14-Jul-2016 |

Parent: $^{147}$Er: E=0; $J^\pi=(1/2^+)$; $T_{1/2}$=2.5 s *2*; Q(εp)=8660 *40*; %εp decay>0.0

Parent: $^{147}$Er: E=0+x; $J^\pi=(11/2^-)$; $T_{1/2}$=1.6 s *2*; Q(εp)=8660 *40*; %εp decay>0.0

$^{147}$Er(0)-$T_{1/2}$: from timing of 683γ of $^{146}$Dy, assigned to mixed activity. In 2010Ma27, value is estimated as 3.2 s *12*.

$^{147}$Er(0)-Q(εp): from 2012Wa38.

$^{147}$Er(0+x)-$T_{1/2}$: from timing of 926γ of $^{146}$Dy.

$^{147}$Er(0+x)-Q(εp): from 2012Wa38.

2010Ma20,2010Ma27,2011MaZL: $^{147}$Er (εp), ($\beta^+$) decay [from $^{58}$Ni($^{92}$Mo,n2p), E=383 MeV]; measured Eγ, pγ(t), γγ coin, $T_{1/2}$. $^{146}$Dy; deduced levels. Cyclotron, He-jet apparatus coupled with transport system, HPGe detectors, enriched targets.

$^{147}$Er was identified by observation of coincidences of 2.2 to 6.5-MeV protons with 925γ and 683γ of $^{146}$Dy. By timing analyzing of these γ′s, $T_{1/2}$=1.6 s and 2.5 s were determined for the isomer J=11/2$^-$ and the g.s. J=1/2$^+$ in $^{147}$Er, respectively. The second value of $T_{1/2}$ should be attributed to the mixed decays of the isomer state and g.s.

Delayed protons were observed also with E(av)≈4.1 MeV and E(p)=2.4 to 6.3 MeV (1986Wi15,1988NiZX), see also 1988ToZW.

### $^{146}$Dy Levels

| E(level)† | $J^\pi$† | $T_{1/2}$† |
|---|---|---|
| 0.0 | $0^+$ | 33.2 s *7* |
| 682.62 *18* | $2^+$ | |
| 1607.75 *21* | $4^+$ | |

† From 'Adopted Levels, Gammas.

### γ($^{146}$Dy)

| $E_\gamma$† | $E_i$(level) | $J^\pi_i$ | $E_f$ | $J^\pi_f$ |
|---|---|---|---|---|
| 682.62 *18* | 682.62 | $2^+$ | 0.0 | $0^+$ |
| 925.12 *10* | 1607.75 | $4^+$ | 682.62 | $2^+$ |

† From 'Adopted Levels, Gammas.

### Delayed Protons ($^{146}$Dy)

| E($^{146}$Dy) |
|---|
| 682.62 |
| 1607.75 |

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Decay Scheme