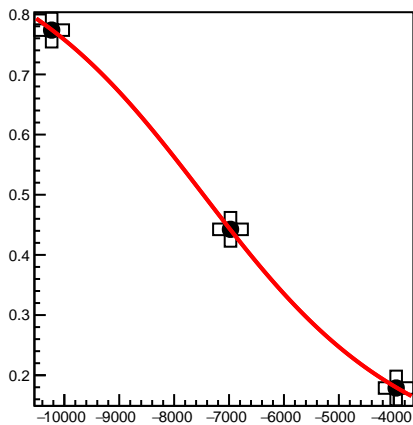
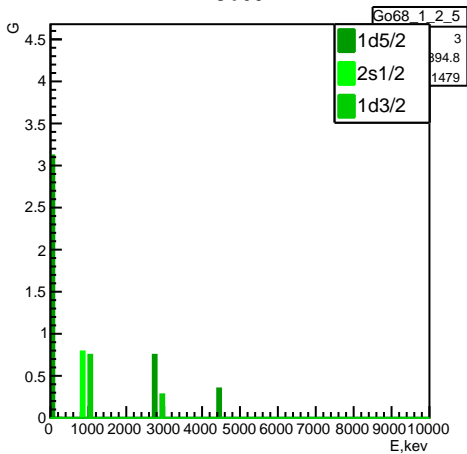
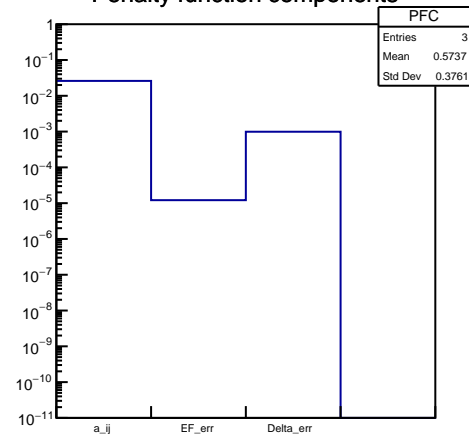


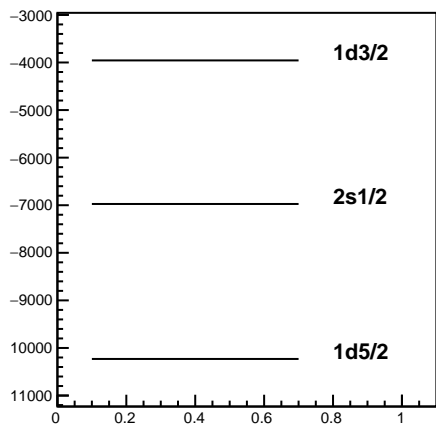
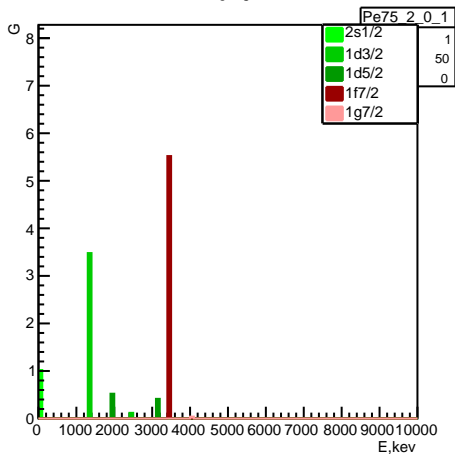
Go68



Penalty function components



Pe75



Experiment: Go68 (6) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7467.9 \pm 9.9017$ keV $\Delta: 4210.54 \pm 22.0667$ keV

penalty: 0.00901937

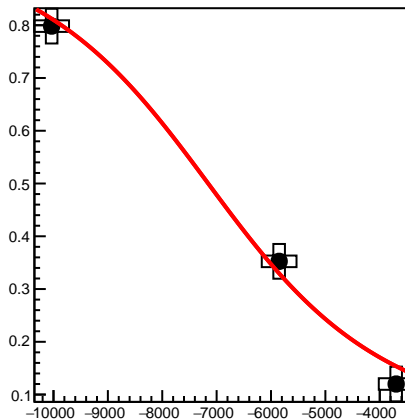
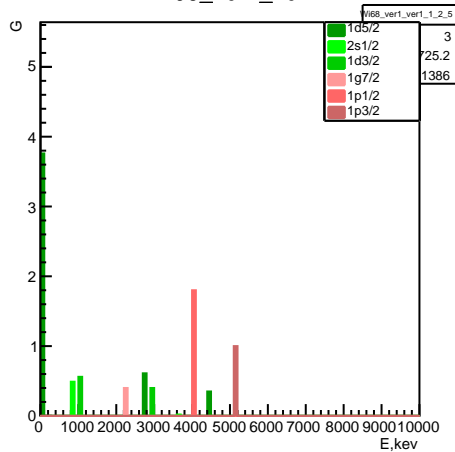
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10230.9 1d5/2 0.773667 0.859333

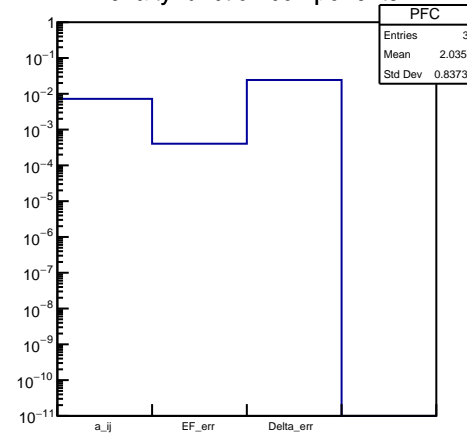
-6973.77 2s1/2 0.4425 0.905

-3956.54 1d3/2 0.17875 1.1575

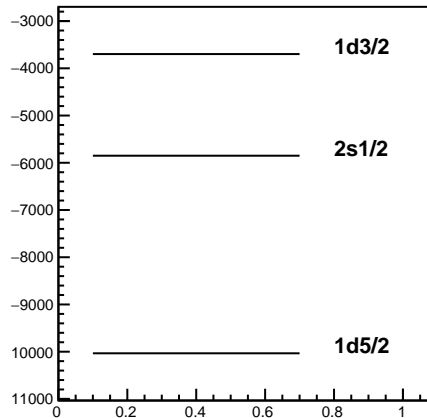
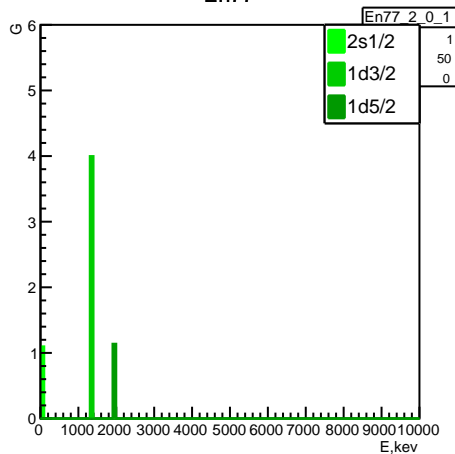
Wi68_ver1_ver1



Penalty function components



En77



Experiment: Wi68_ver1_ver1 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7154.75 \pm 328.968 \text{ keV}$ $\Delta: 3599.16 \pm 541.624 \text{ keV}$

penalty: 0.0106449

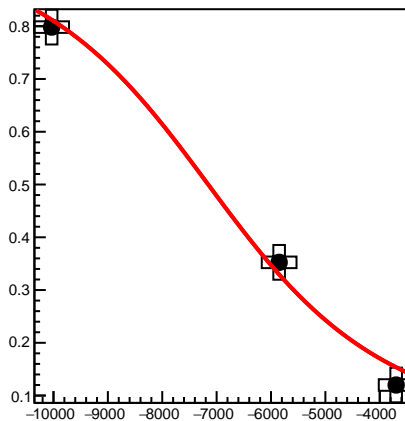
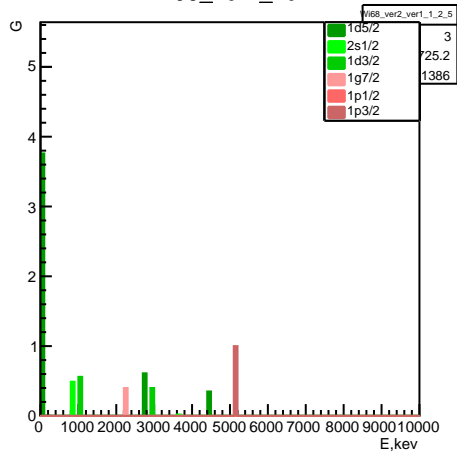
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

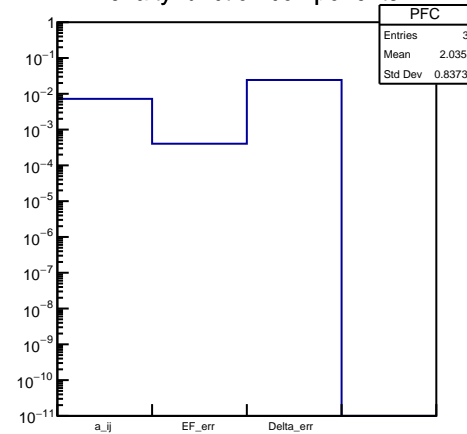
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

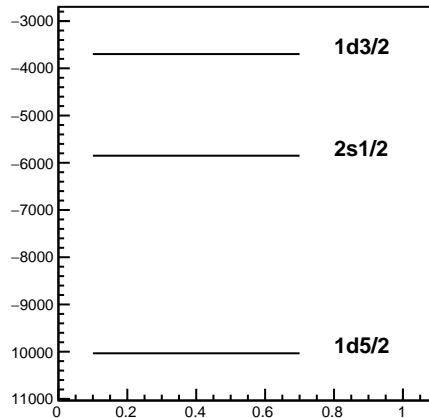
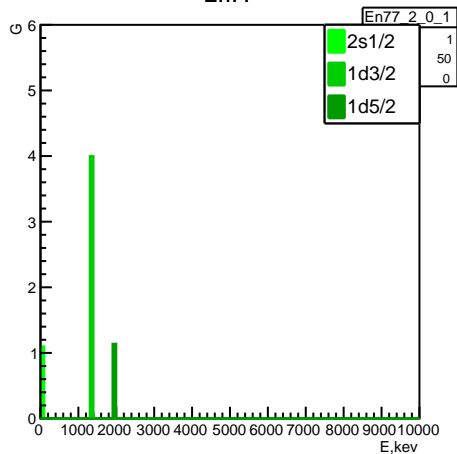
Wi68_ver2_ver1



Penalty function components



En77



Experiment: Wi68_ver2_ver1 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7154.75 \pm 328.968 keV Δ : 3599.16 \pm 541.624 keV

penalty: 0.0106449

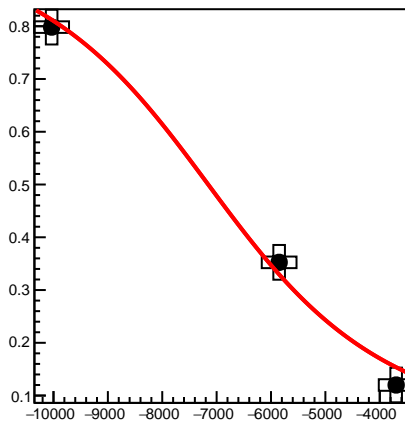
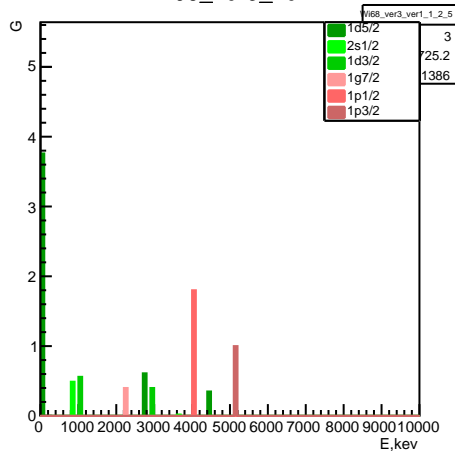
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

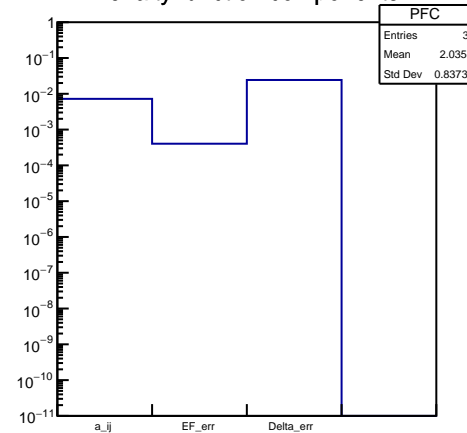
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

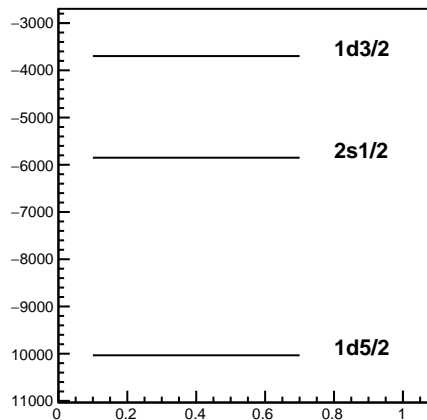
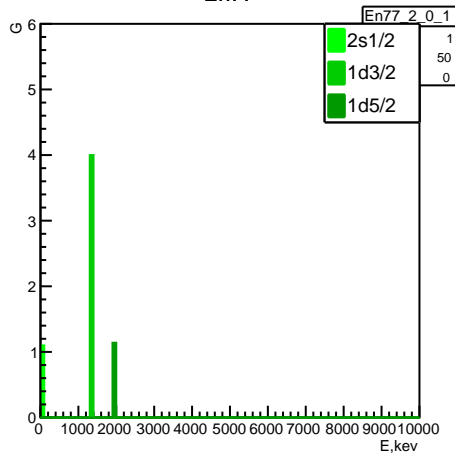
Wi68_ver3_ver1



Penalty function components



En77



Experiment: Wi68_ver3_ver1 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7154.75 \pm 328.968 \text{ keV}$ $\Delta: 3599.16 \pm 541.624 \text{ keV}$

penalty: 0.0106449

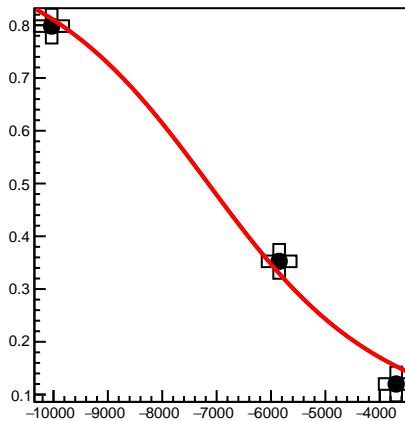
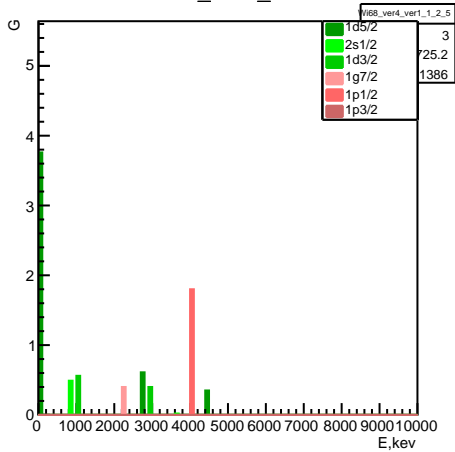
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

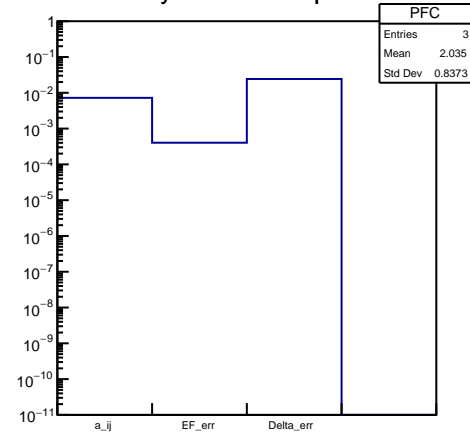
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

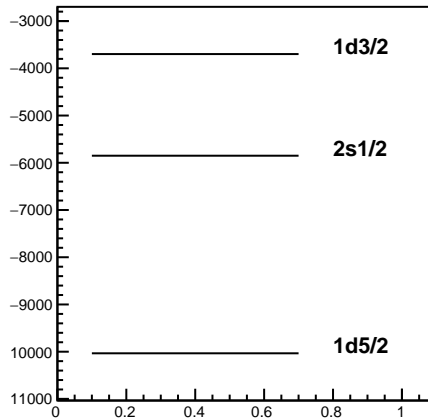
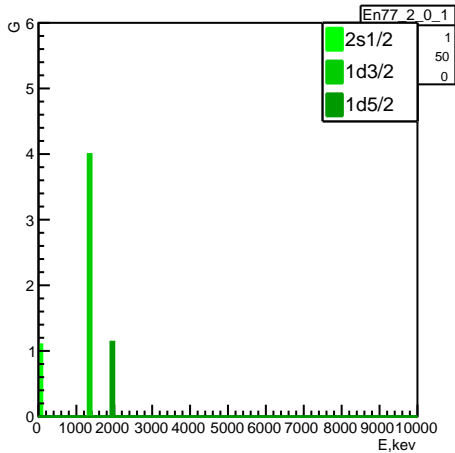
Wi68_ver4_ver1



Penalty function components



En77



Experiment: Wi68_ver4_ver1 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7154.75 \pm 328.968 keV Δ : 3599.16 \pm 541.624 keV

penalty: 0.0106449

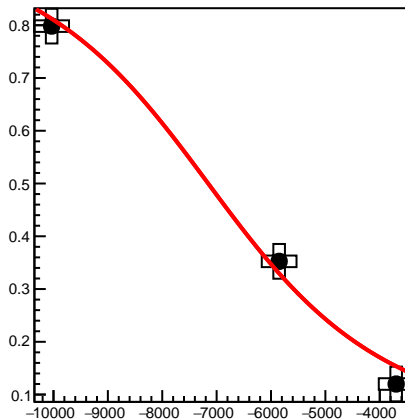
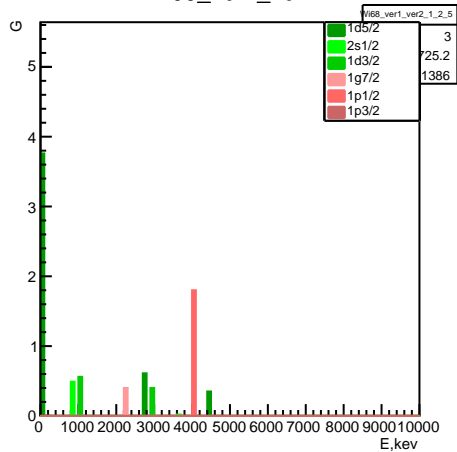
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

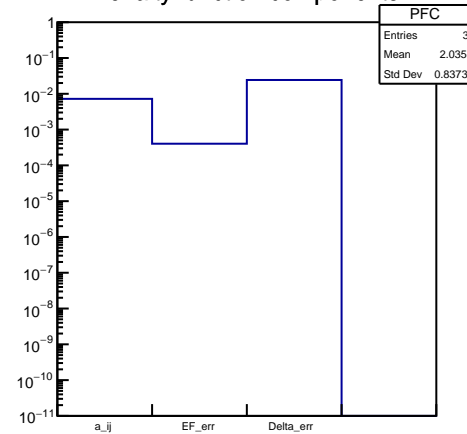
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

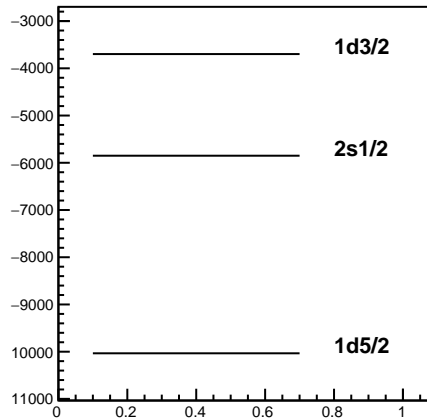
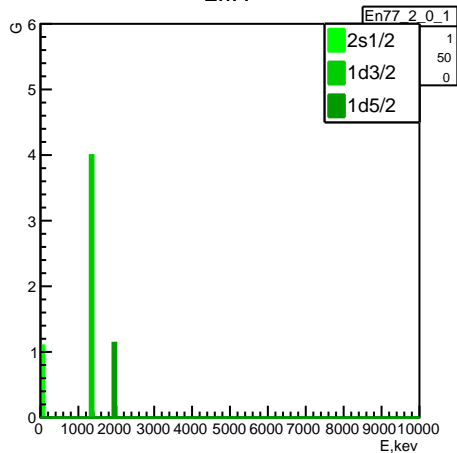
Wi68_ver1_ver2



Penalty function components



En77



Experiment: Wi68_ver1_ver2 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7154.75 \pm 328.968 keV Δ : 3599.16 \pm 541.624 keV

penalty: 0.0106449

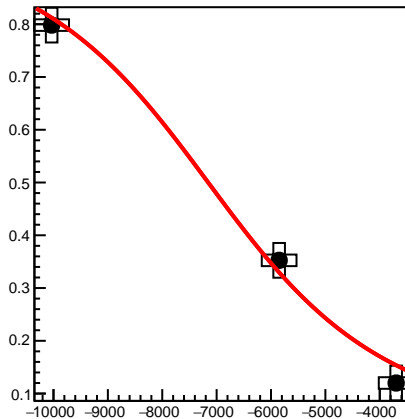
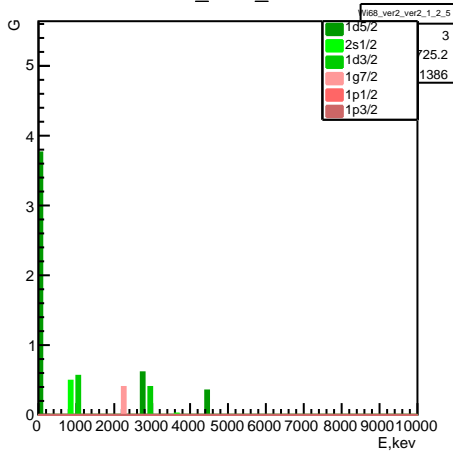
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

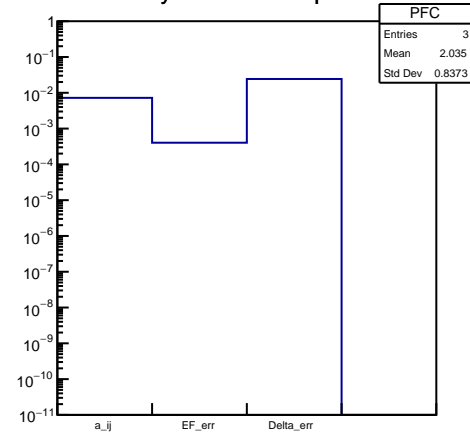
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

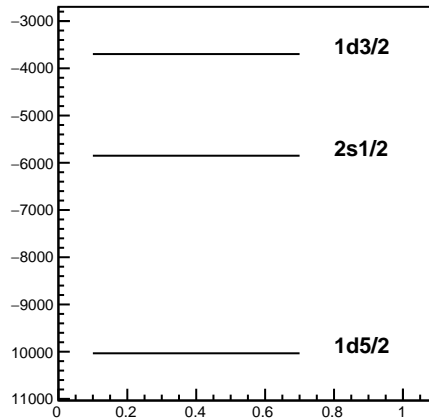
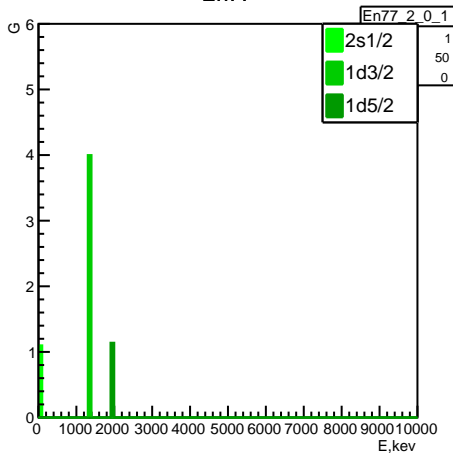
Wi68_ver2_ver2



Penalty function components



En77



Experiment: Wi68_ver2_ver2 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7154.75 \pm 328.968 keV Δ : 3599.16 \pm 541.624 keV

penalty: 0.0106449

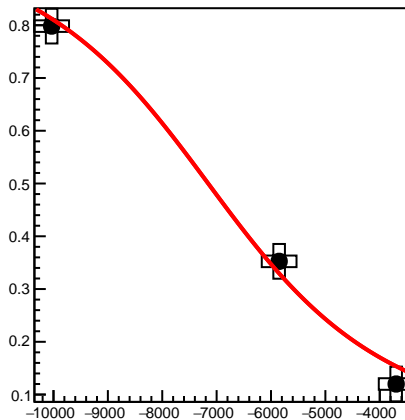
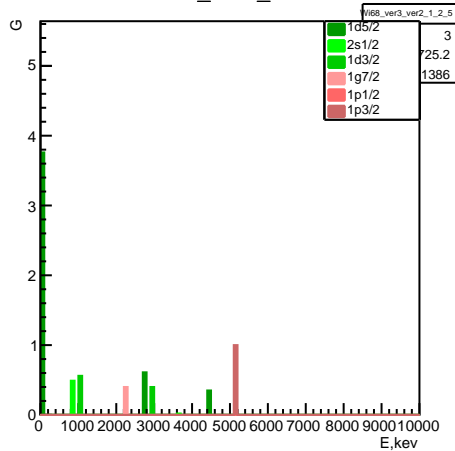
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

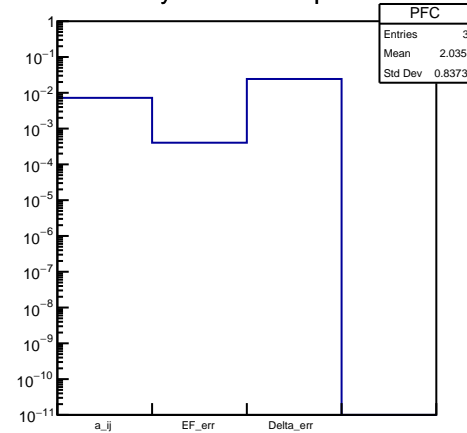
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

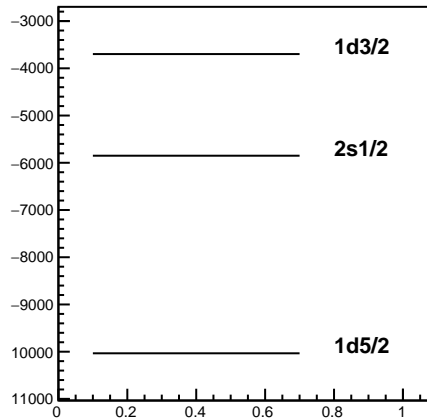
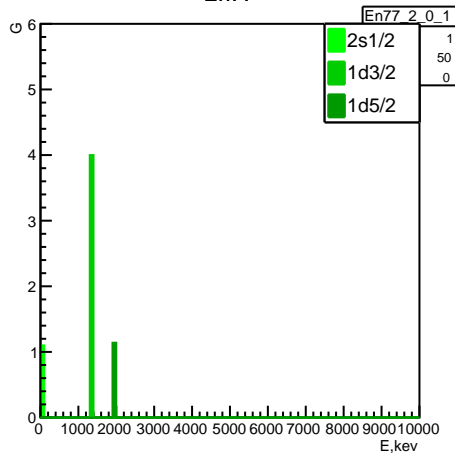
Wi68_ver3_ver2



Penalty function components



En77



Experiment: Wi68_ver3_ver2 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7154.75 \pm 328.968 keV Δ : 3599.16 \pm 541.624 keV

penalty: 0.0106449

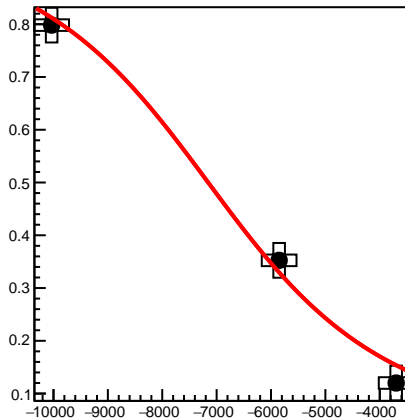
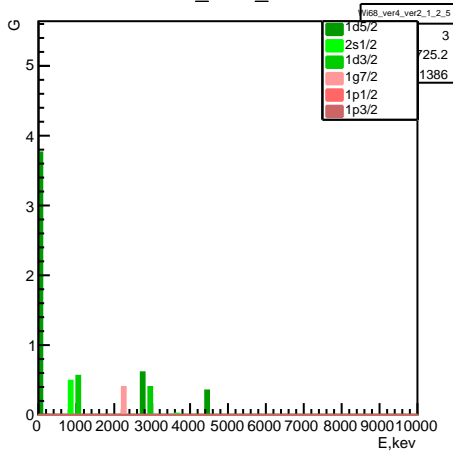
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

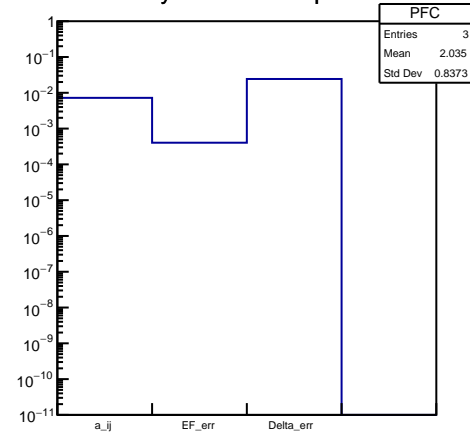
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

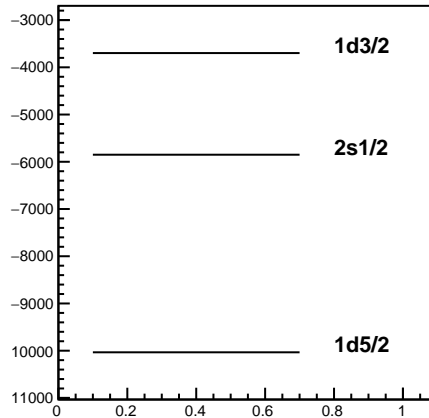
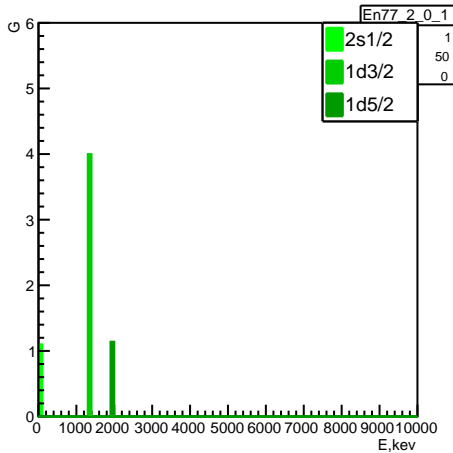
Wi68_ver4_ver2



Penalty function components



En77



Experiment: Wi68_ver4_ver2 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7154.75 \pm 328.968 \text{ keV}$ $\Delta: 3599.16 \pm 541.624 \text{ keV}$

penalty: 0.0106449

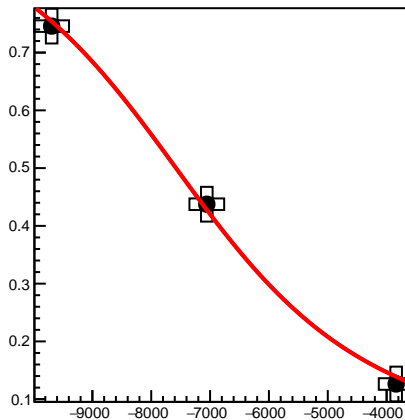
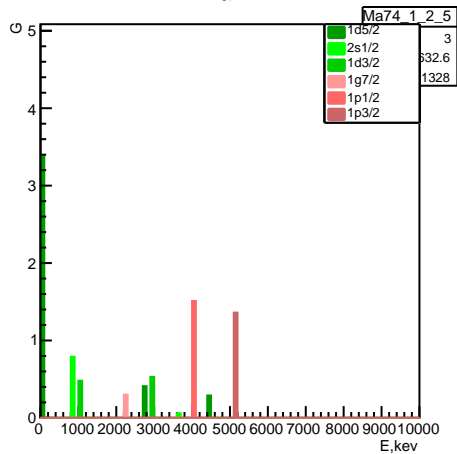
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10034 1d5/2 0.798333 0.976667

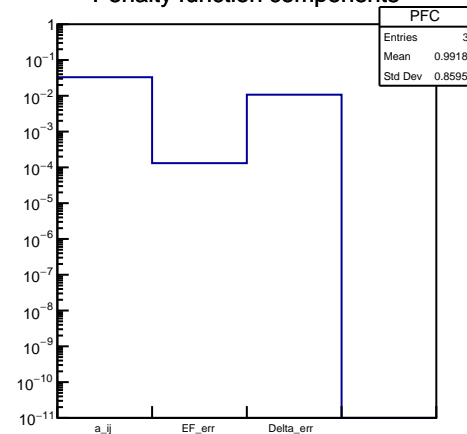
-5850.38 2s1/2 0.3525 0.805

-3698.33 1d3/2 0.12 1.24

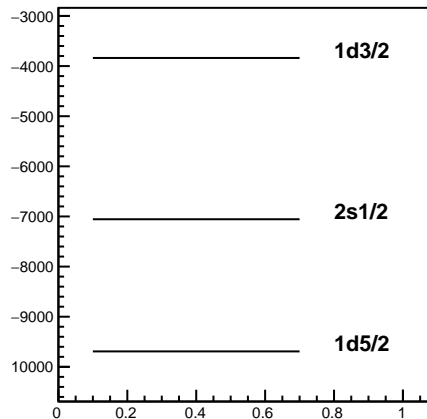
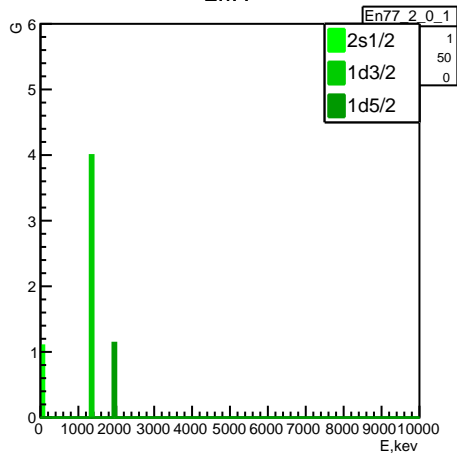
Ma74



Penalty function components



En77



Experiment: Ma74 (10) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7578.51 \pm 107.094$ keV $\Delta: 3585.05 \pm 239.163$ keV

penalty: 0.0146404

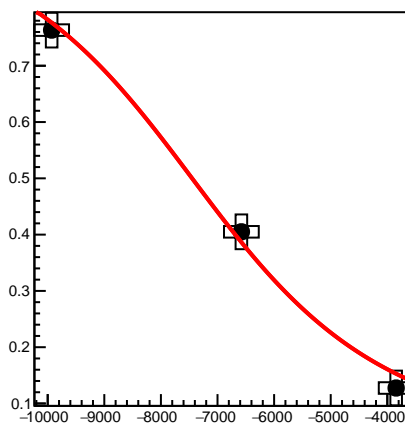
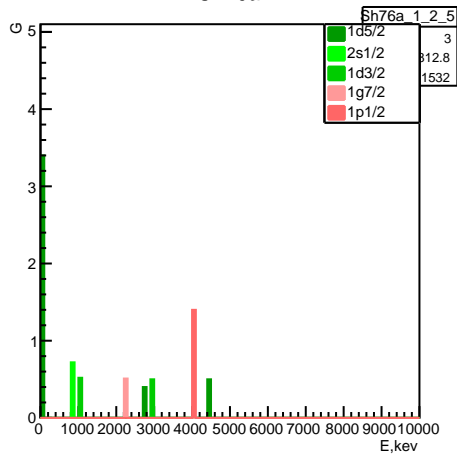
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9691.99 1d5/2 0.745833 0.871667

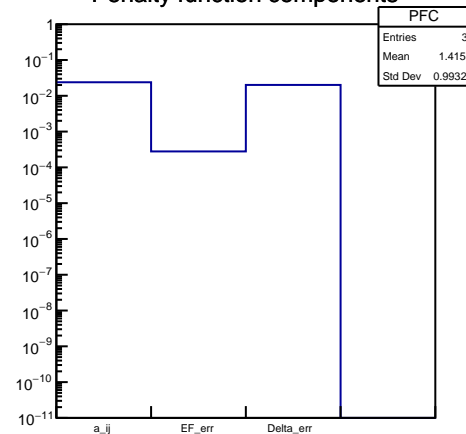
-7055.57 2s1/2 0.4375 0.975

-3838.21 1d3/2 0.12625 1.2525

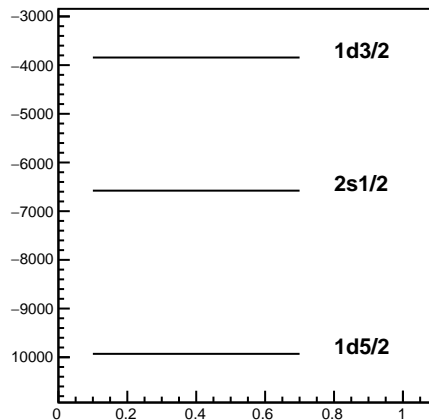
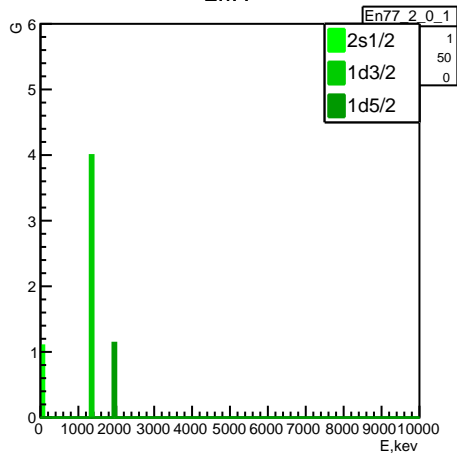
Sh76a



Penalty function components



En77



Experiment: Sh76a (8) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7448.96 \pm 227.813 keV Δ : 3736.05 \pm 448.155 keV

penalty: 0.0147608

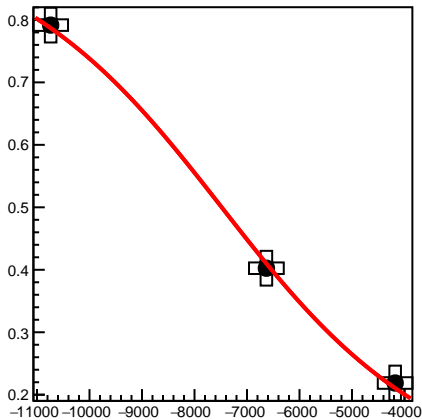
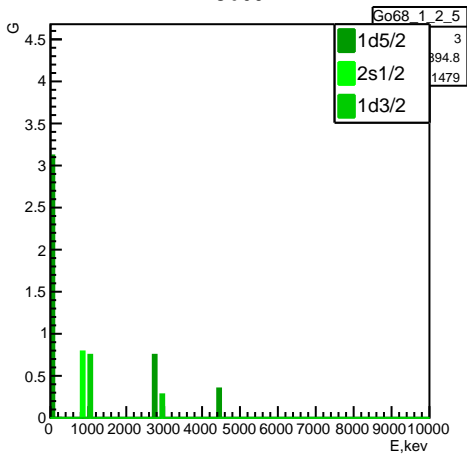
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9930.28 1d5/2 0.763333 0.906667

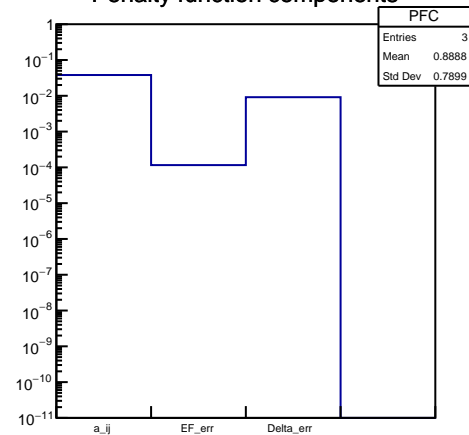
-6578.26 2s1/2 0.405 0.91

-3843.91 1d3/2 0.1275 1.255

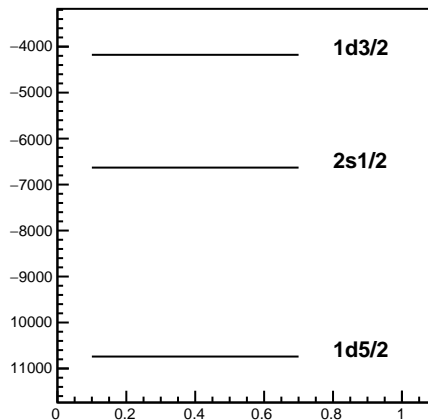
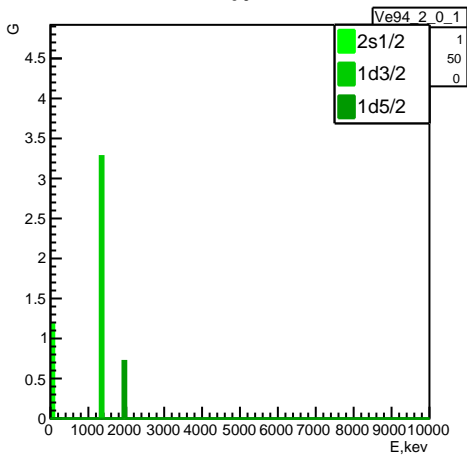
Go68



Penalty function components



Ve94



Experiment: Go68 (6) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7481.59 \pm 94.5296 keV

Δ : -4652.15 \pm 203.625 keV

penalty: 0.0157702

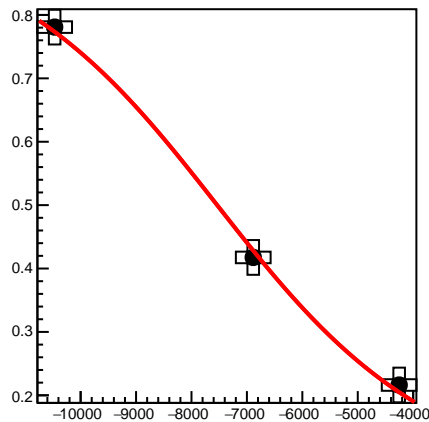
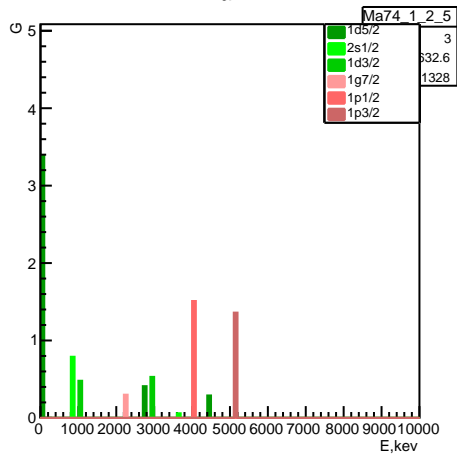
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10740 1d5/2 0.791667 0.823333

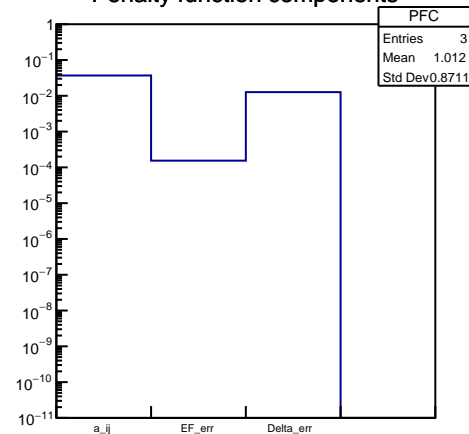
-6630.63 2s1/2 0.4025 0.985

-4177.86 1d3/2 0.21875 1.0775

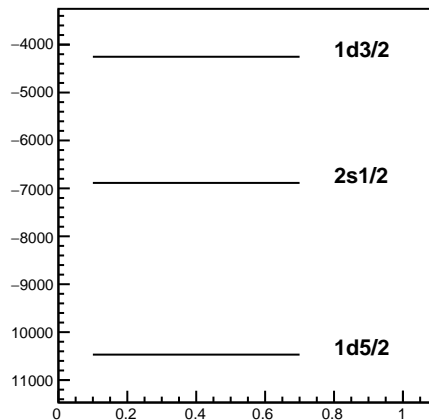
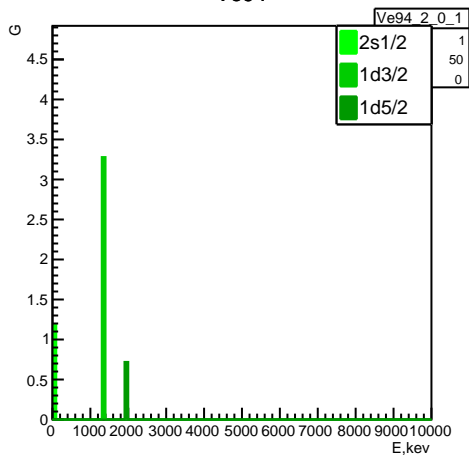
Ma74



Penalty function components



Ve94



Experiment: Ma74 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7536.39 \pm 125.763$ keV $\Delta: 4490.28 \pm 282.194$ keV

penalty: 0.0165881

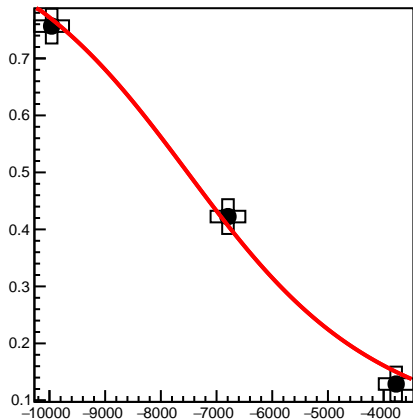
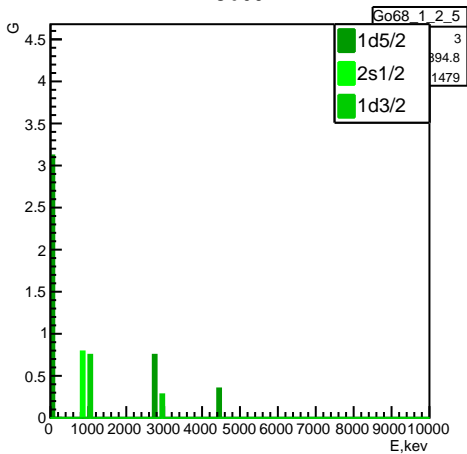
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10468.9 1d5/2 0.780833 0.801667

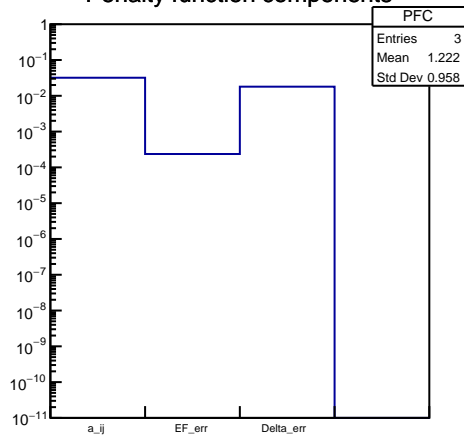
-6885.85 2s1/2 0.4175 1.015

-4253.25 1d3/2 0.21625 1.0725

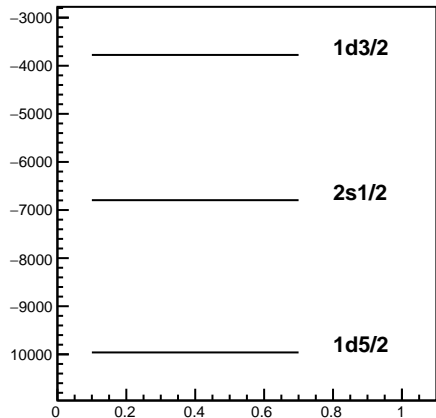
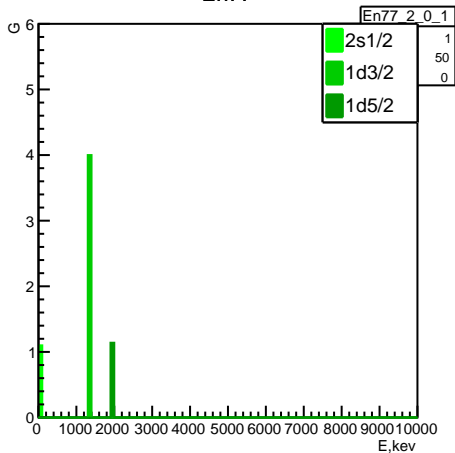
Go68



Penalty function components



En77



Experiment: Go68 (6) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7521.72 \pm 192.956 keV

Δ : 3821.96 \pm 400.524 keV

penalty: 0.0167192

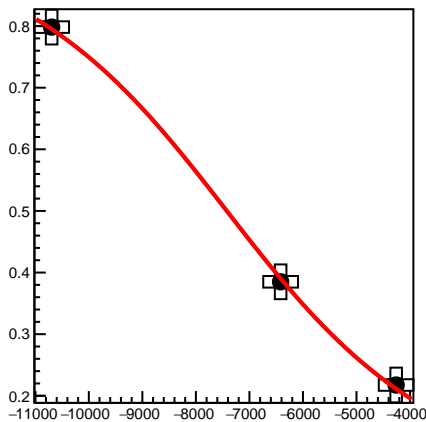
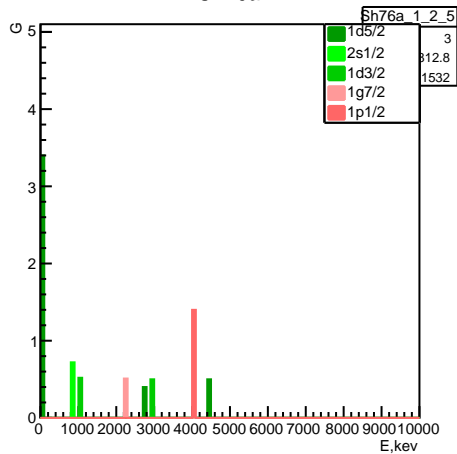
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9960.75 1d5/2 0.756667 0.893333

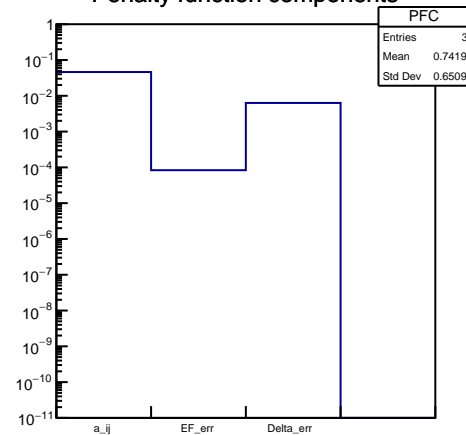
-6794.94 2s1/2 0.4225 0.945

-3775.26 1d3/2 0.12875 1.2575

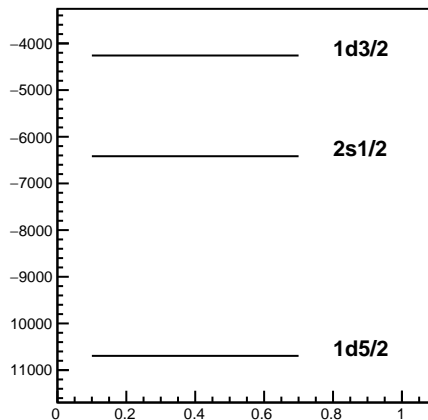
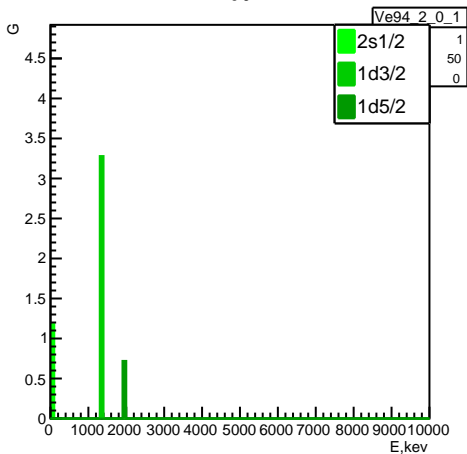
Sh76a



Penalty function components



Ve94



Experiment: Sh76a (8) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7422.85 \pm 68.1313 keV Δ : -4475.73 \pm 140.562 keV

penalty: 0.0175011

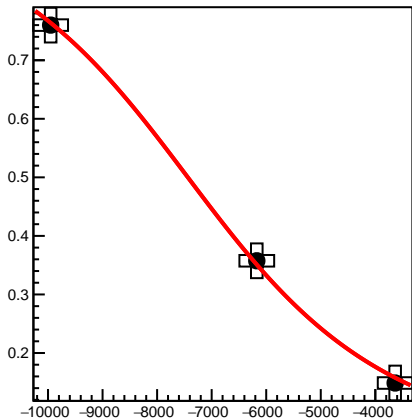
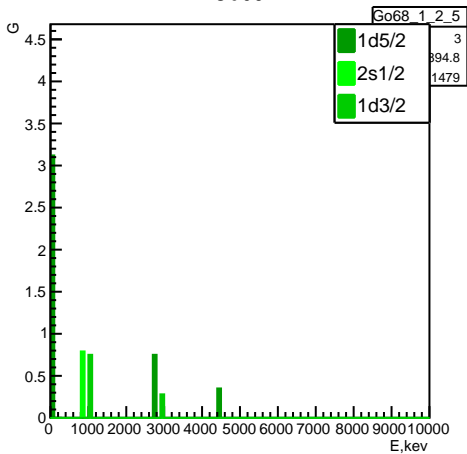
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10694.6 1d5/2 0.798333 0.836667

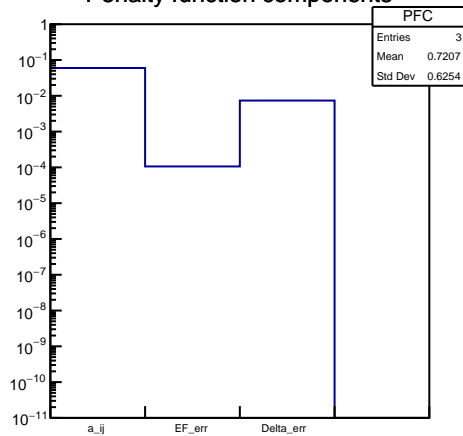
-6417.02 2s1/2 0.385 0.95

-4258.93 1d3/2 0.2175 1.075

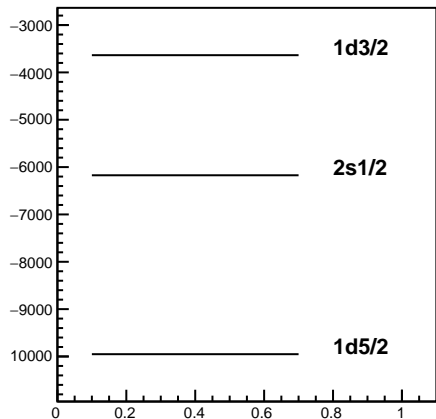
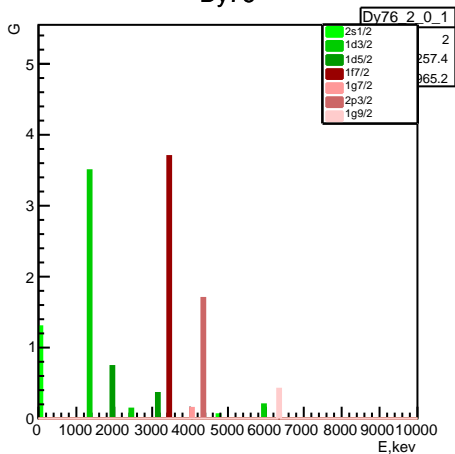
Go68



Penalty function components



Dy76



Experiment: Go68 (6) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7436.72 \pm 86.7035 keV Δ : 4047.98 \pm 164.019 keV

penalty: 0.0223967

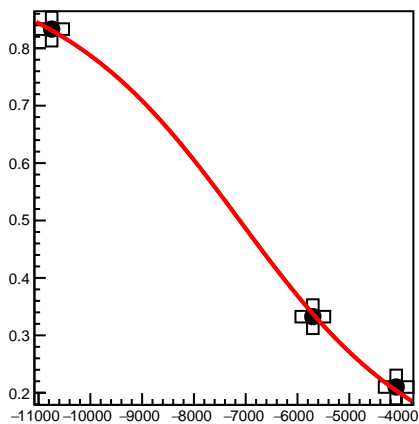
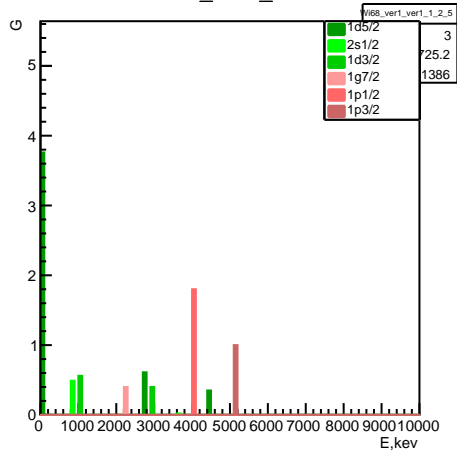
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9951.71 1d5/2 0.76 0.886667

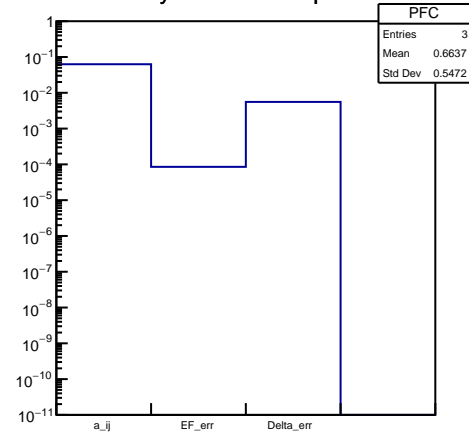
-6172.84 2s1/2 0.3575 1.075

-3636.3 1d3/2 0.14875 1.2175

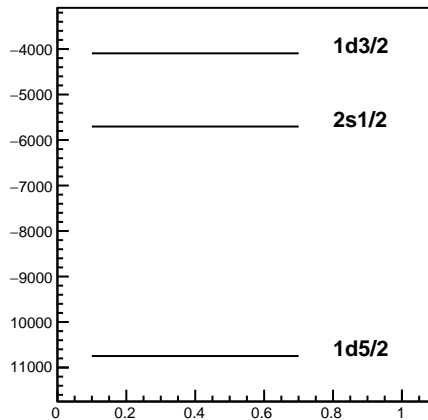
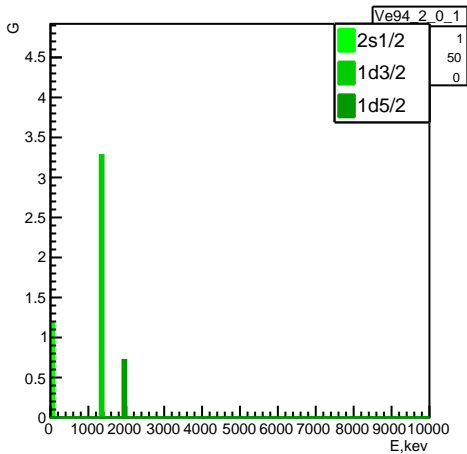
Wi68_ver1_ver1



Penalty function components



Ve94



Experiment: Wi68_ver1_ver1 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7115.02 \pm 69.6364 keV Δ : 4108.48 \pm 123.857 keV

penalty: 0.0228074

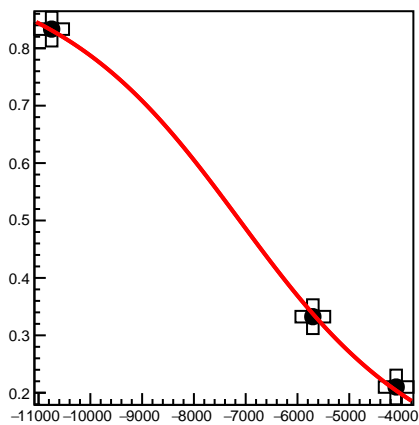
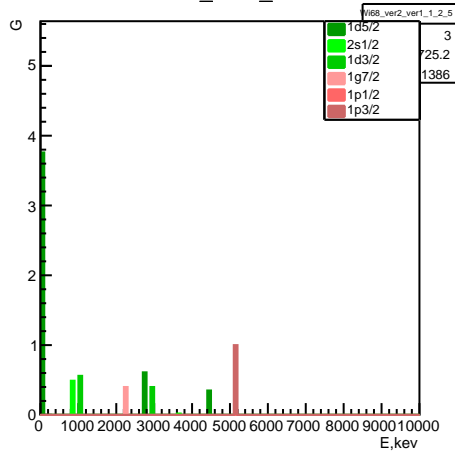
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

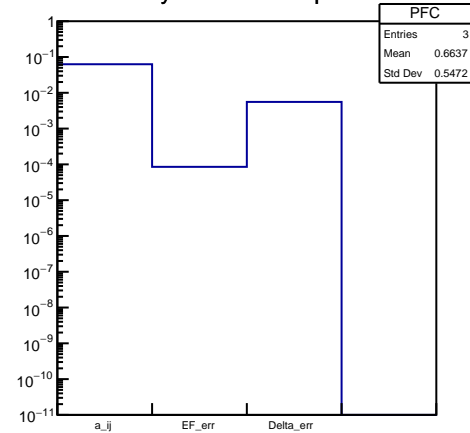
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

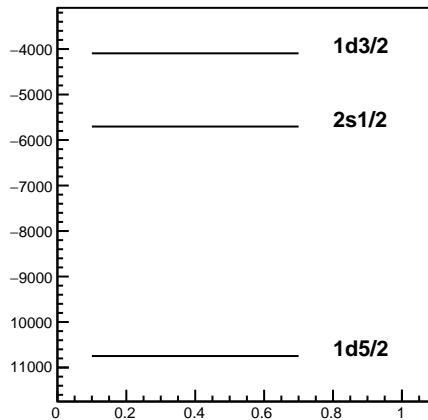
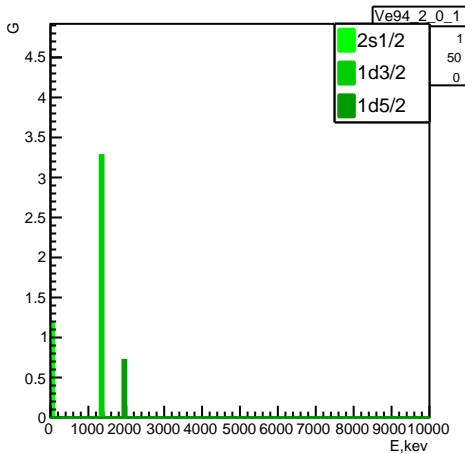
Wi68_ver2_ver1



Penalty function components



Ve94



Experiment: Wi68_ver2_ver1 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7115.02 \pm 69.6364 keV Δ : 4108.48 \pm 123.857 keV

penalty: 0.0228074

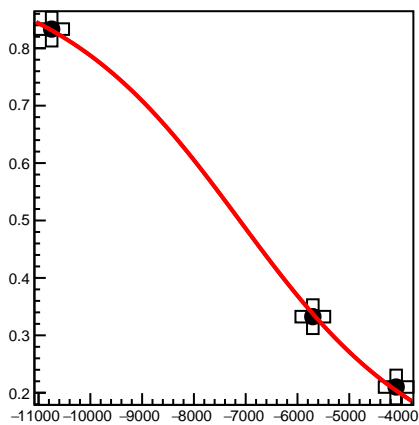
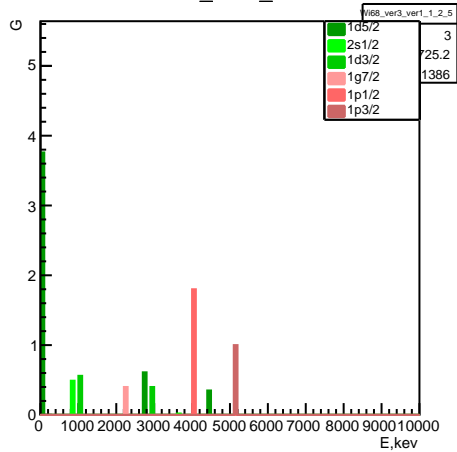
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

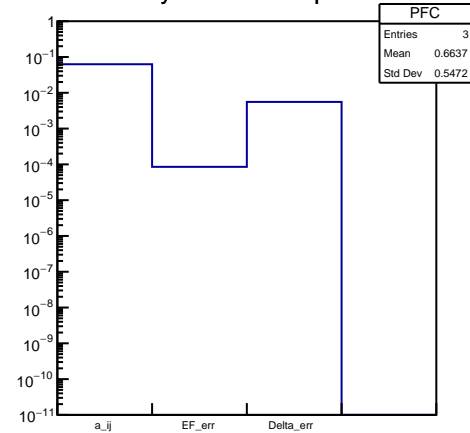
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

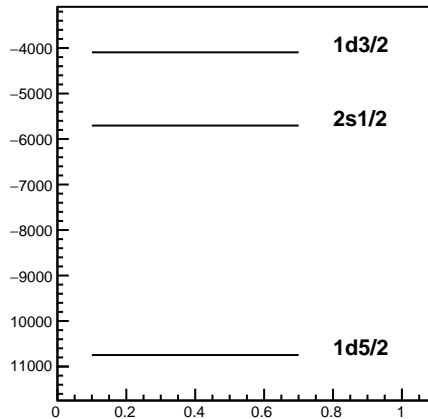
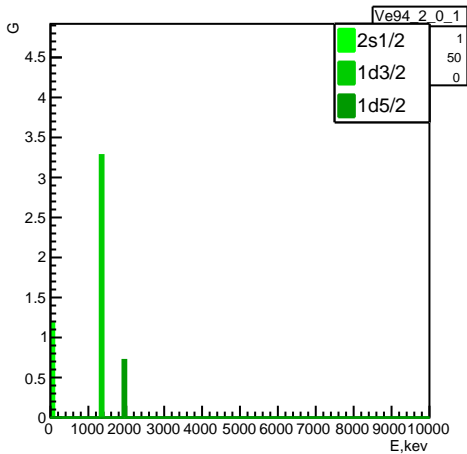
Wi68_ver3_ver1



Penalty function components



Ve94



Experiment: Wi68_ver3_ver1 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7115.02 ± 69.6364 keV

Δ: 4108.48 ± 123.857 keV

penalty: 0.0228074

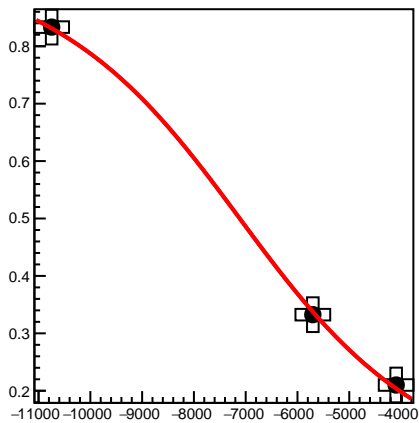
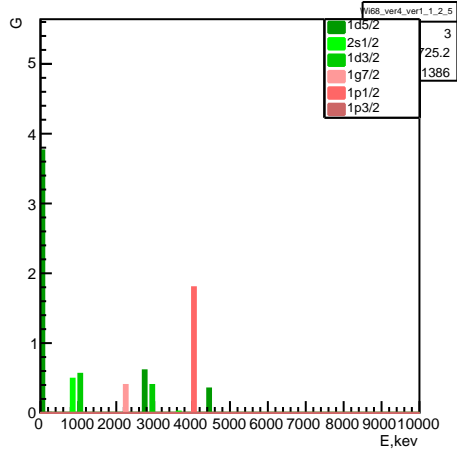
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

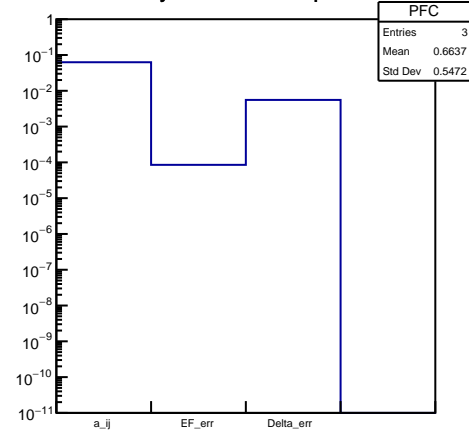
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

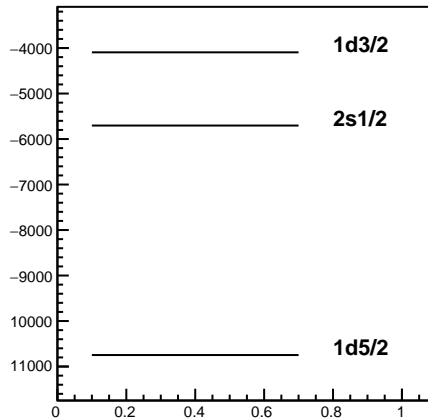
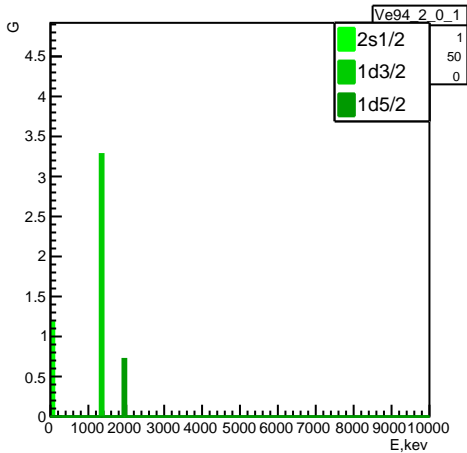
Wi68_ver4_ver1



Penalty function components



Ve94



Experiment: Wi68_ver4_ver1 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7115.02 \pm 69.6364 \text{ keV}$ $\Delta: 4108.48 \pm 123.857 \text{ keV}$

penalty: 0.0228074

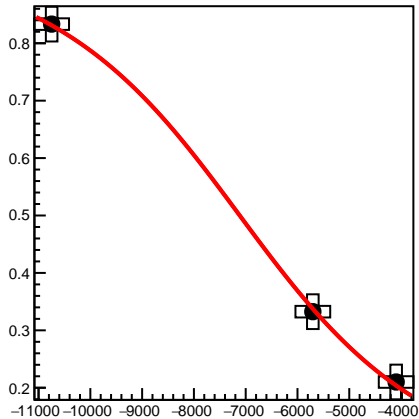
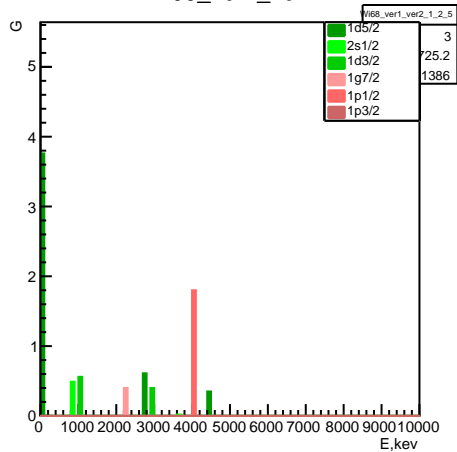
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

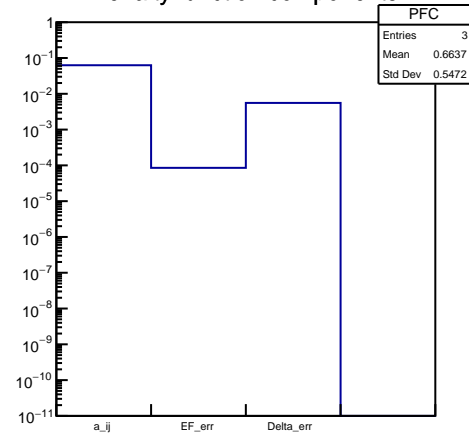
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

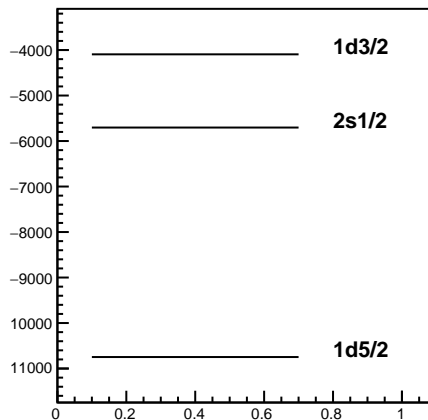
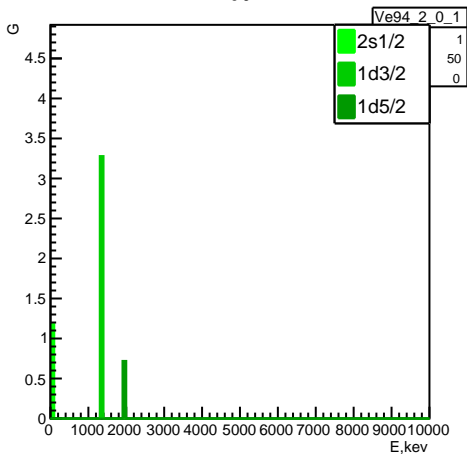
Wi68_ver1_ver2



Penalty function components



Ve94



Experiment: Wi68_ver1_ver2 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7115.02 \pm 69.6364 keV Δ : 4108.48 \pm 123.857 keV

penalty: 0.0228074

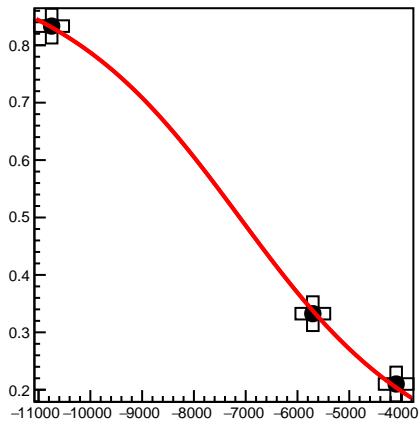
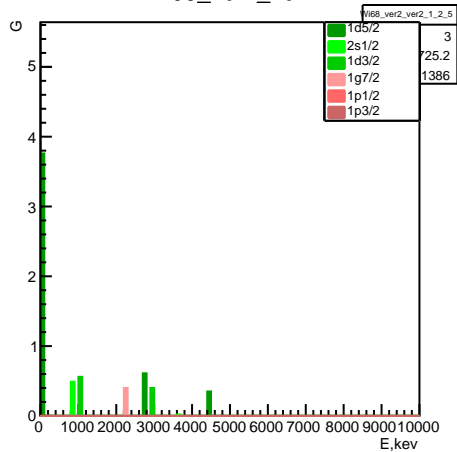
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

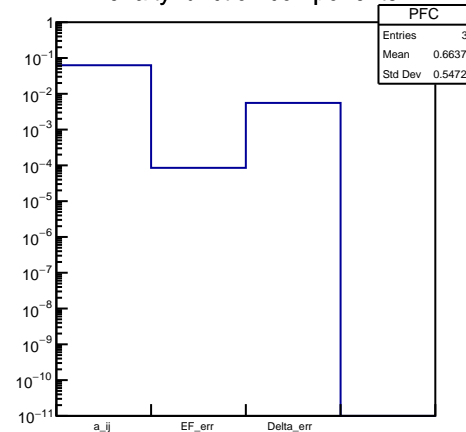
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

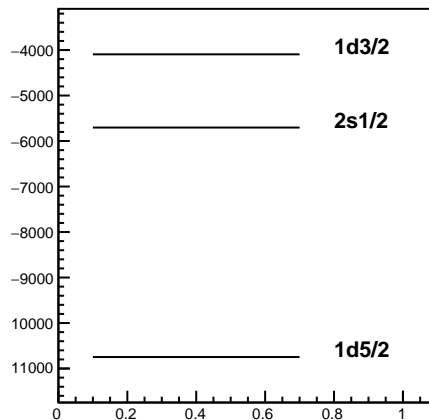
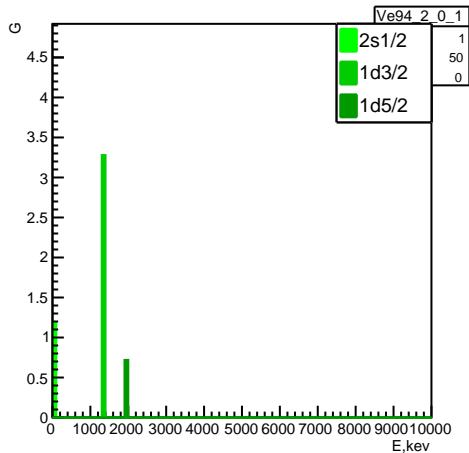
Wi68_ver2_ver2



Penalty function components



Ve94



Experiment: Wi68_ver2_ver2 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7115.02 \pm 69.6364 keV Δ : 4108.48 \pm 123.857 keV

penalty: 0.0228074

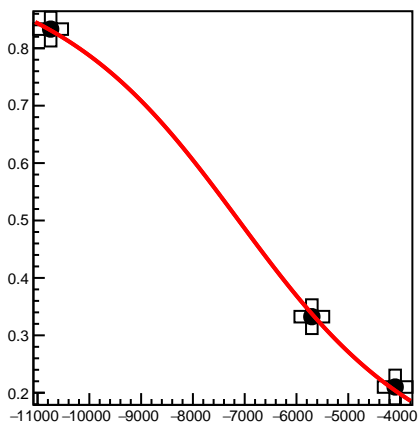
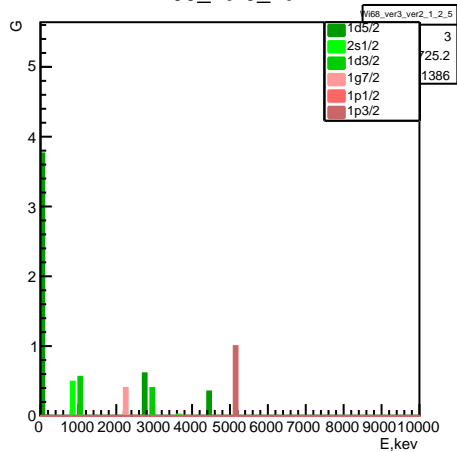
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

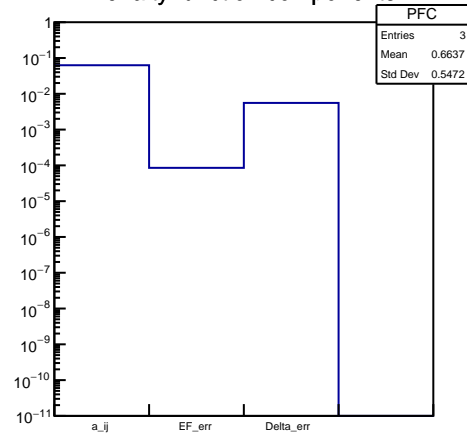
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

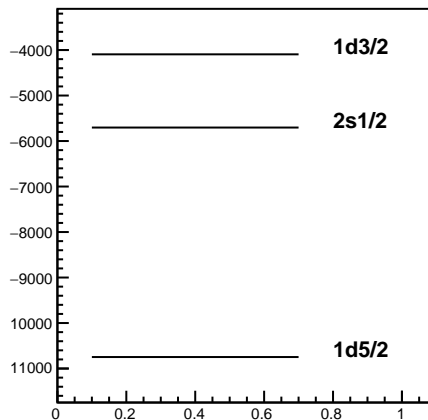
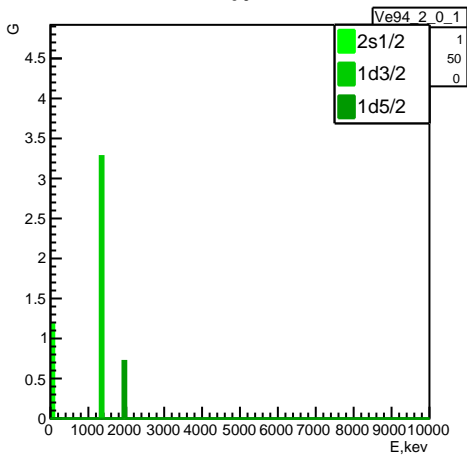
Wi68_ver3_ver2



Penalty function components



Ve94



Experiment: Wi68_ver3_ver2 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7115.02 \pm 69.6364 \text{ keV}$ $\Delta: 4108.48 \pm 123.857 \text{ keV}$

penalty: 0.0228074

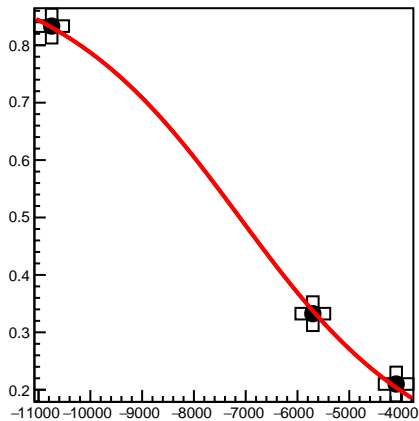
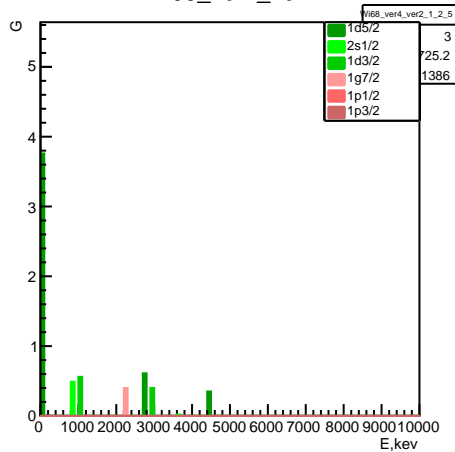
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

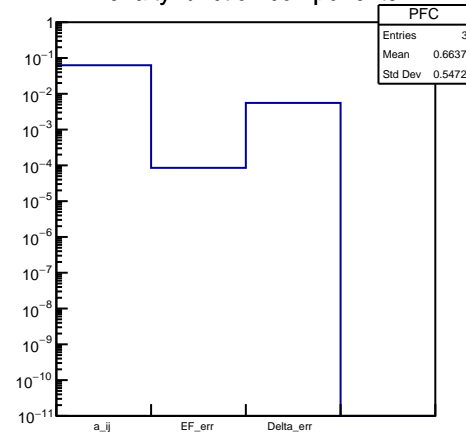
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

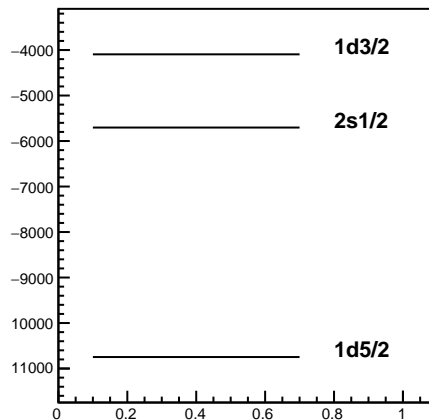
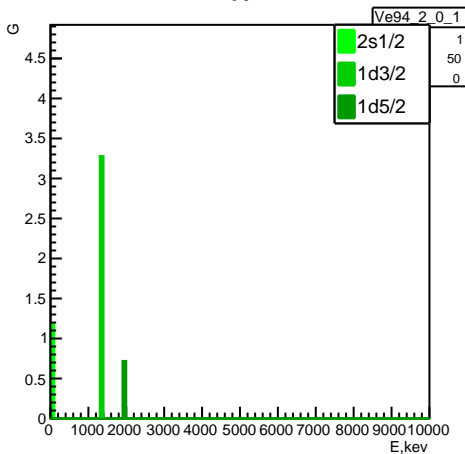
Wi68_ver4_ver2



Penalty function components



Ve94



Experiment: Wi68_ver4_ver2 (10) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7115.02 \pm 69.6364 \text{ keV}$ $\Delta: 4108.48 \pm 123.857 \text{ keV}$

penalty: 0.0228074

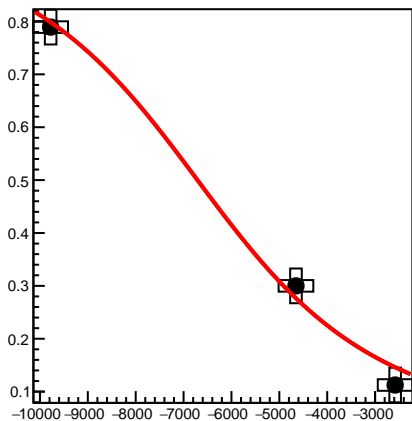
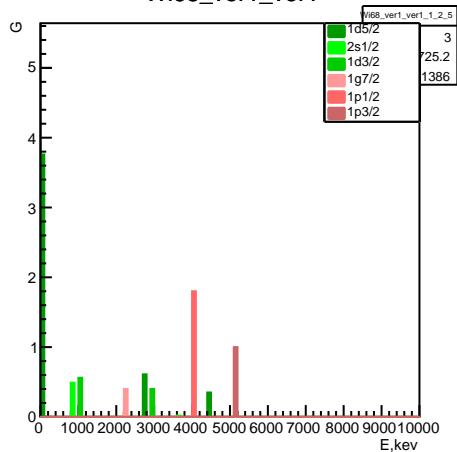
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10747.3 1d5/2 0.833333 0.906667

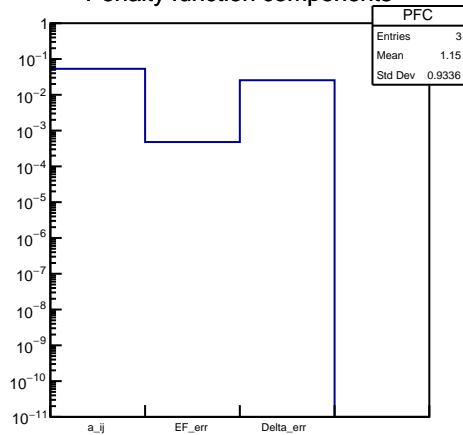
-5703.57 2s1/2 0.3325 0.845

-4094.5 1d3/2 0.21 1.06

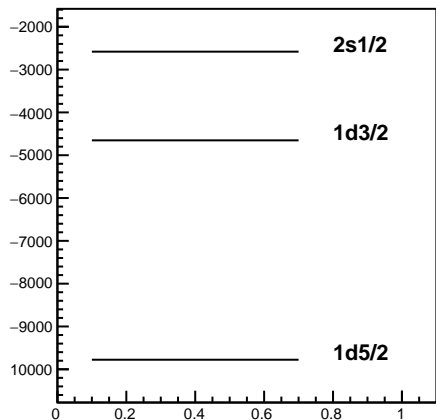
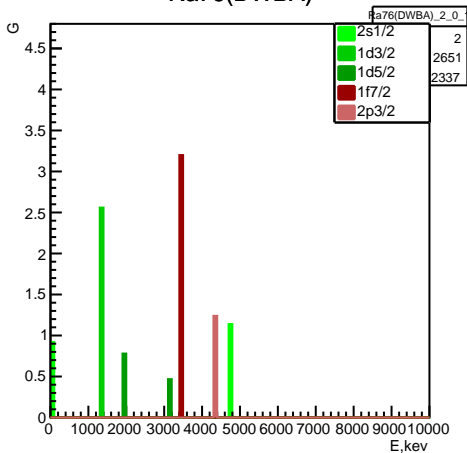
Wi68_ver1_ver1



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver1_ver1 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

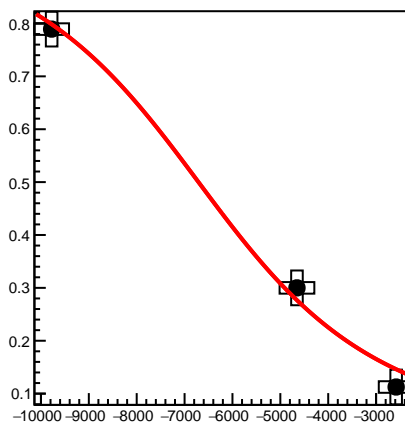
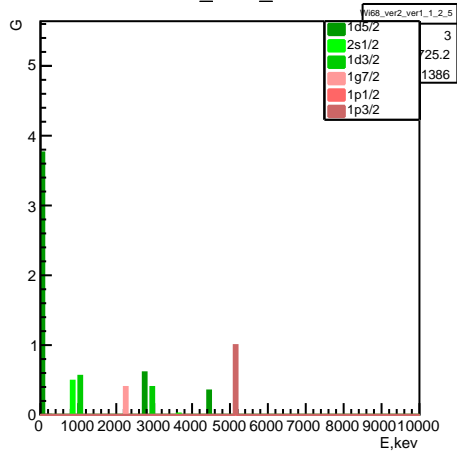
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

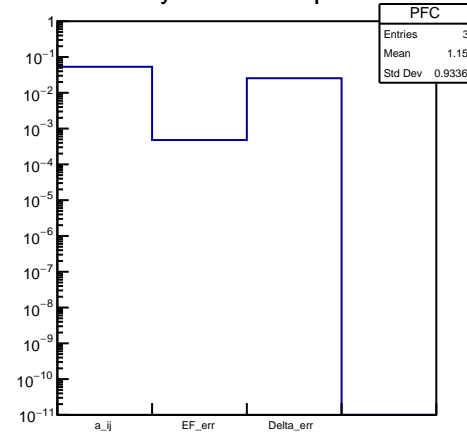
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

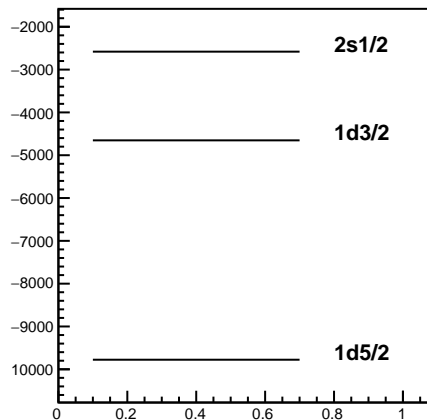
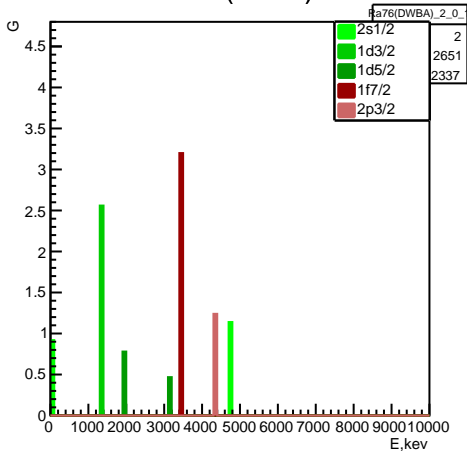
Wi68_ver2_ver1



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver2_ver1 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

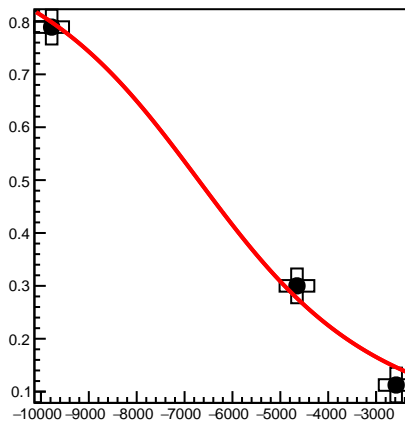
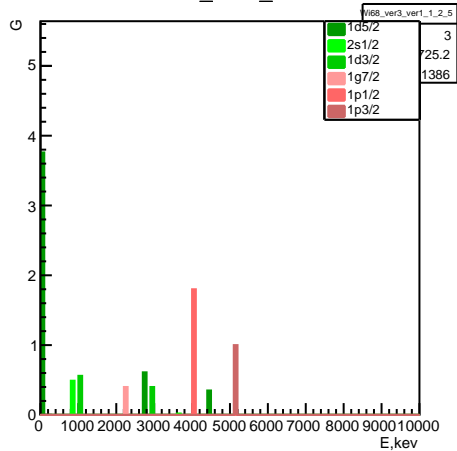
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

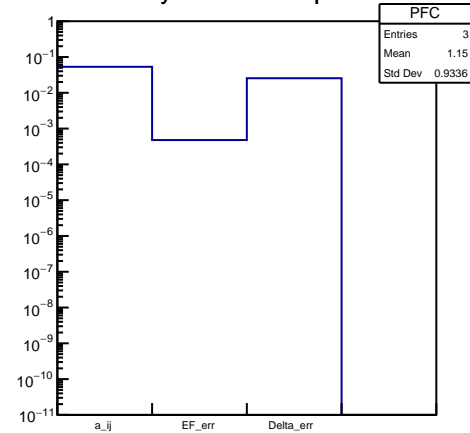
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

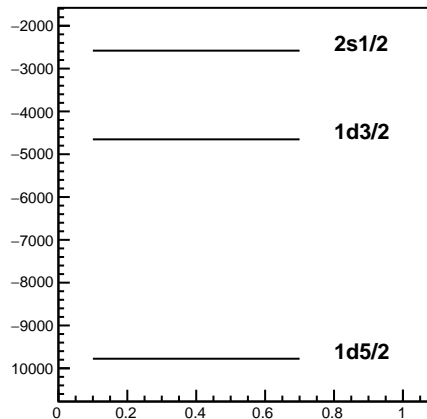
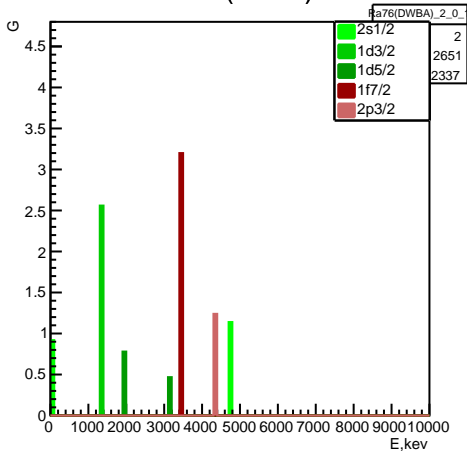
Wi68_ver3_ver1



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver3_ver1 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

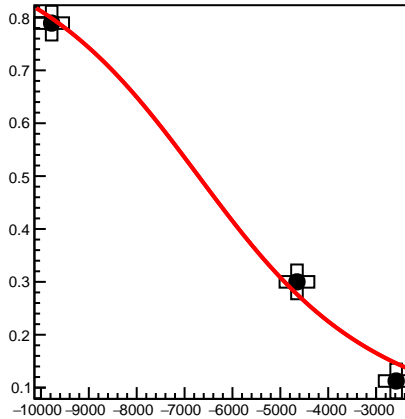
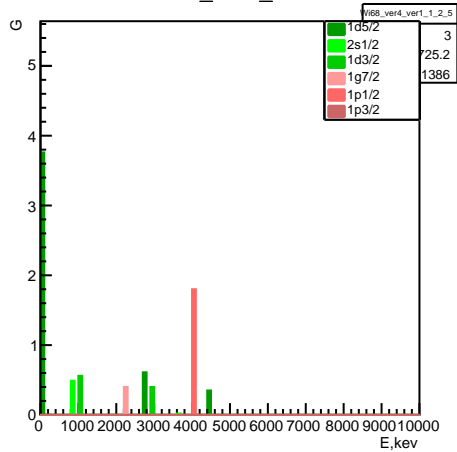
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

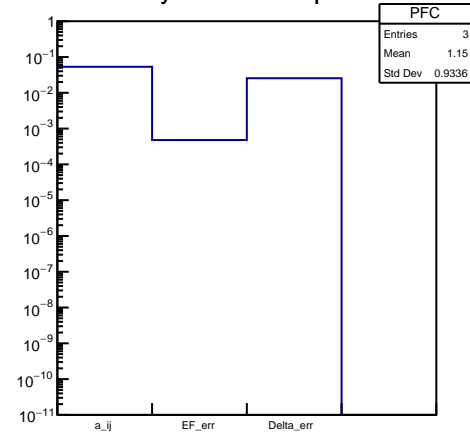
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

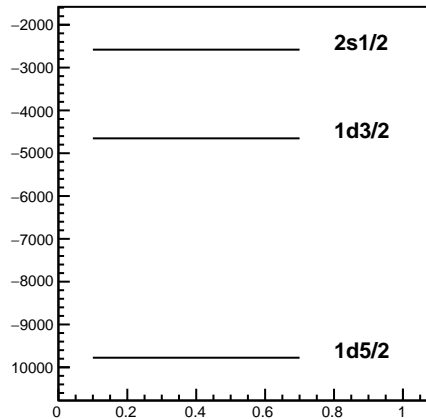
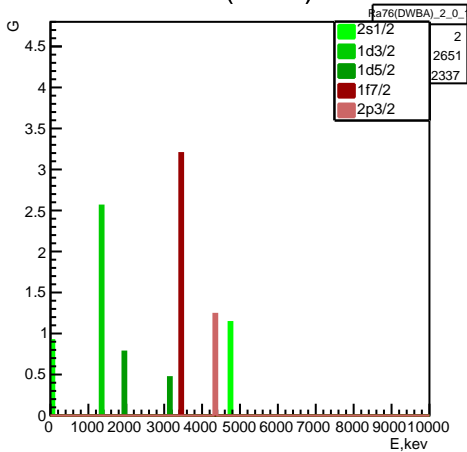
Wi68_ver4_ver1



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver4_ver1 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

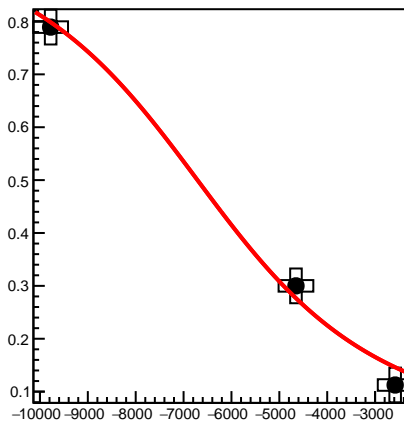
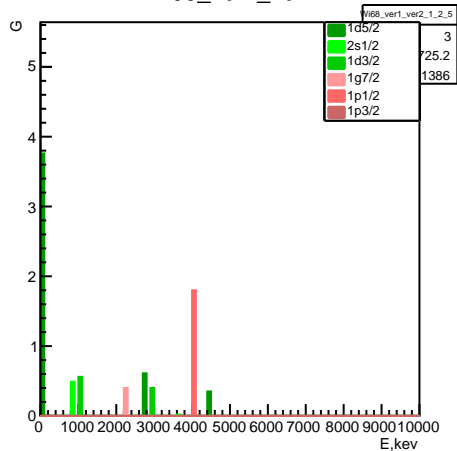
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

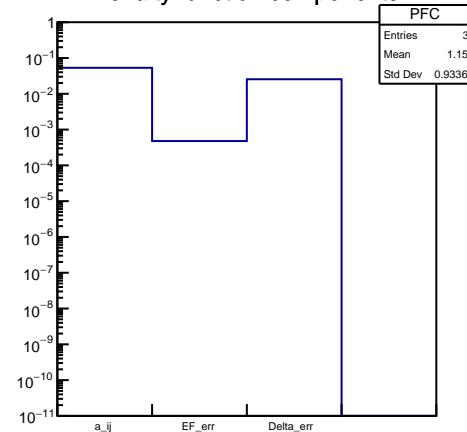
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

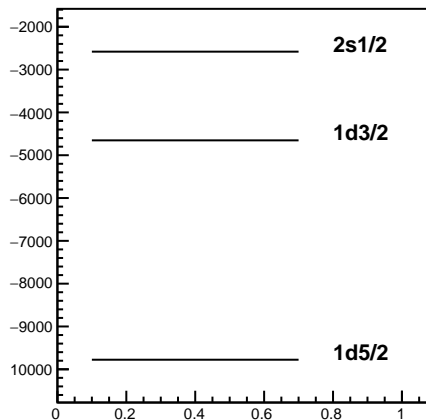
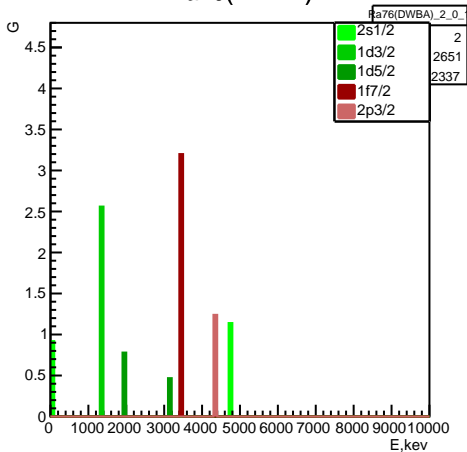
Wi68_ver1_ver2



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver1_ver2 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

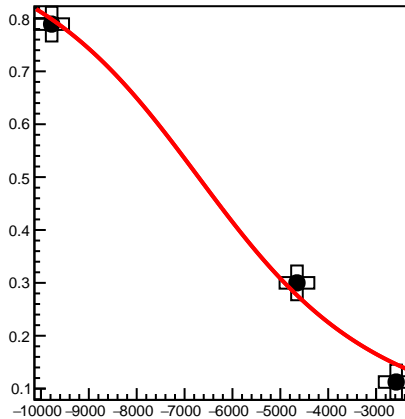
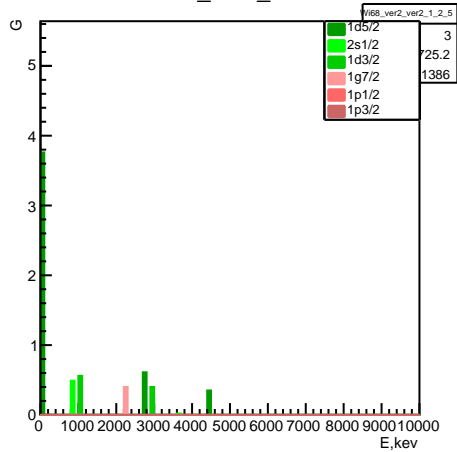
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

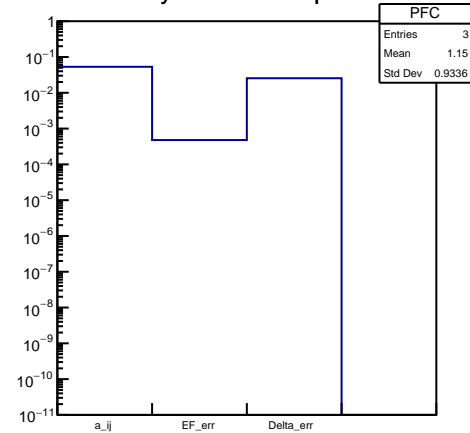
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

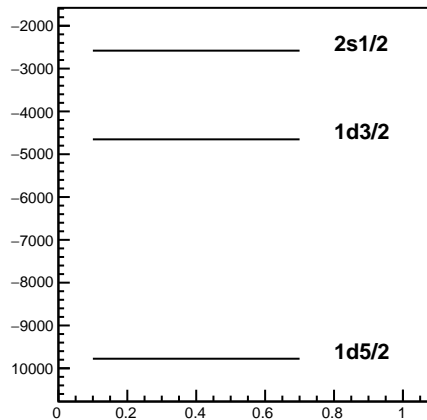
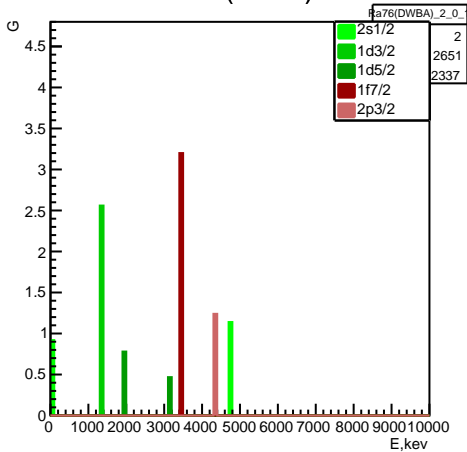
Wi68_ver2_ver2



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver2_ver2 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

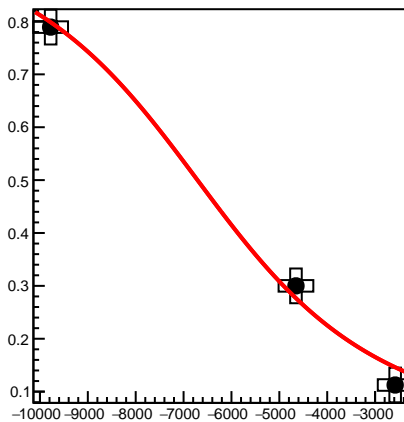
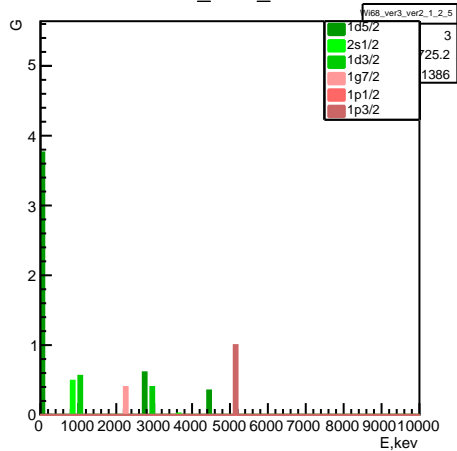
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

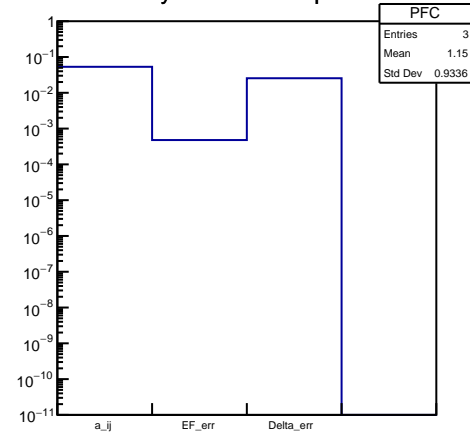
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

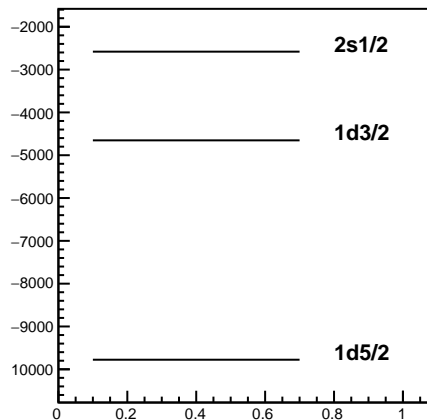
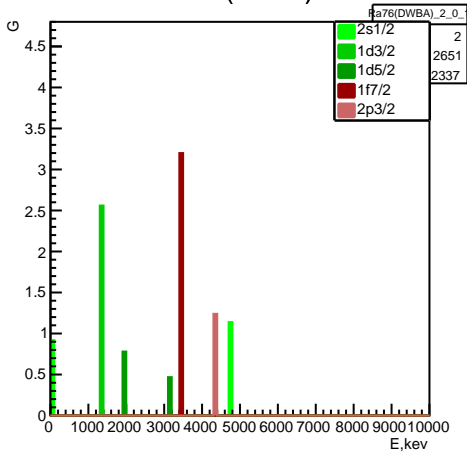
Wi68_ver3_ver2



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver3_ver2 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

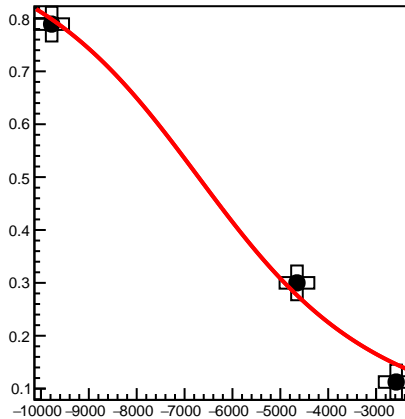
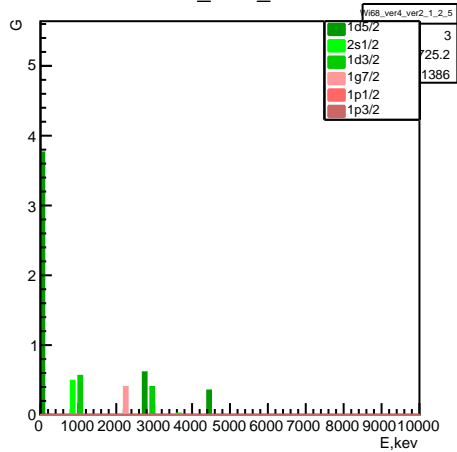
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

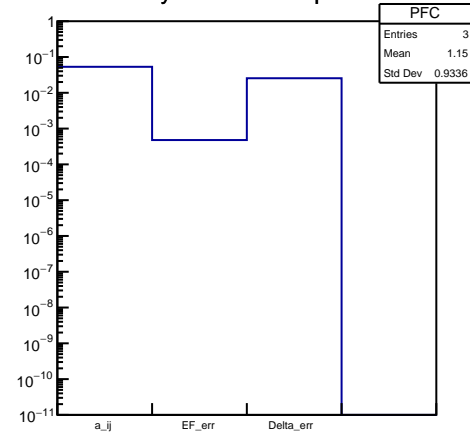
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

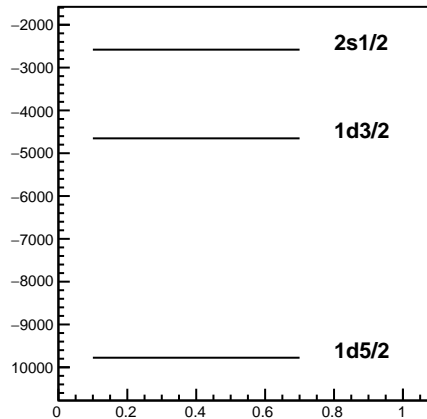
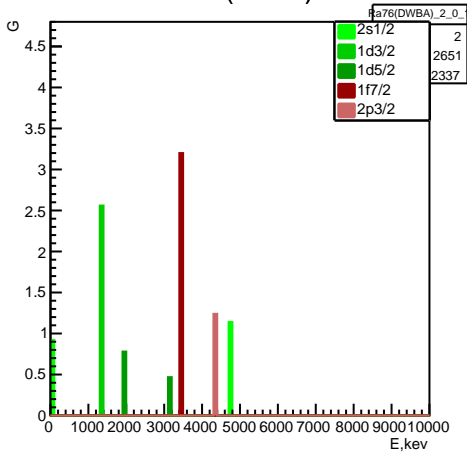
Wi68_ver4_ver2



Penalty function components



Ra76(DWBA)



Experiment: Wi68_ver4_ver2 (10) Ra76(DWE)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6709.48 \pm 390.602 \text{ keV}$ $\Delta: -4120.36 \pm 568.288 \text{ keV}$

penalty: 0.0264023

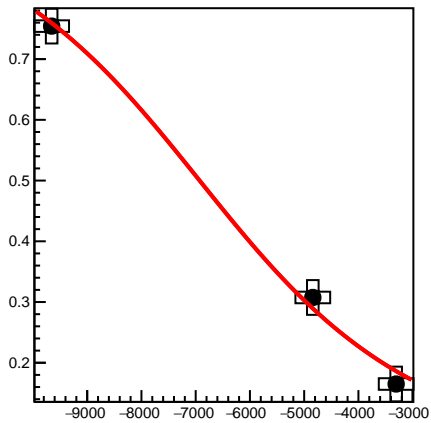
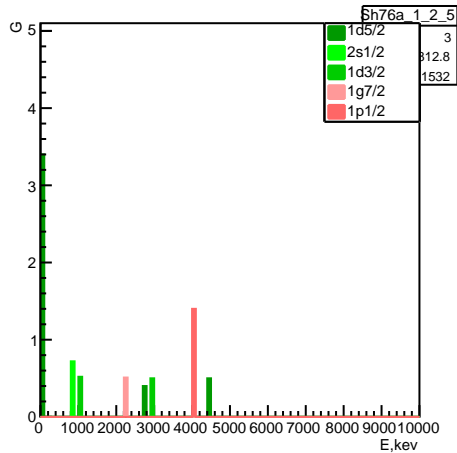
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9776.47 1d5/2 0.789333 0.994667

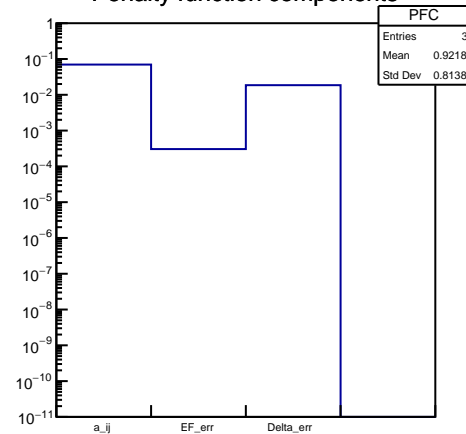
-2580.83 2s1/2 0.1125 1.285

-4652.75 1d3/2 0.3 0.88

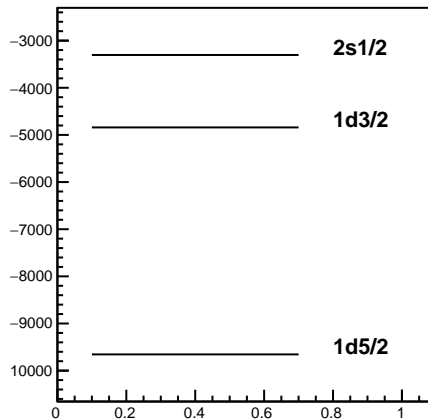
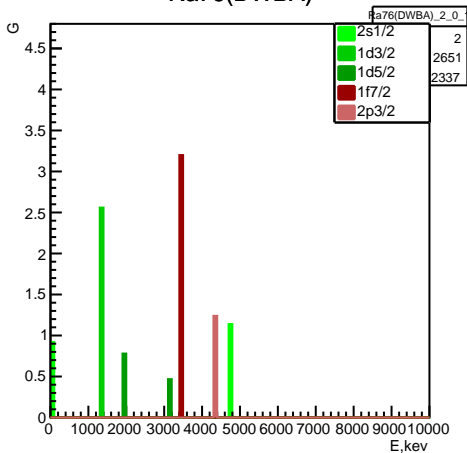
Sh76a



Penalty function components



Ra76(DWBA)



Experiment: Sh76a (8) Ra76(DWBA) (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6927.48 \pm 248.49$ keV $\Delta: -4493.91 \pm 413.7$ keV

penalty: 0.0295871

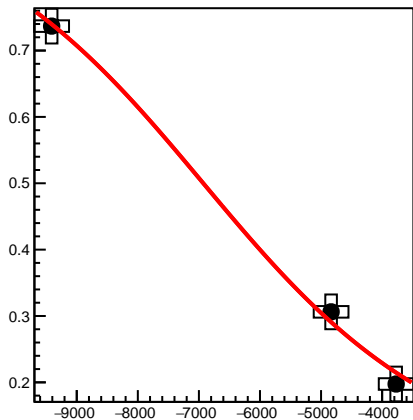
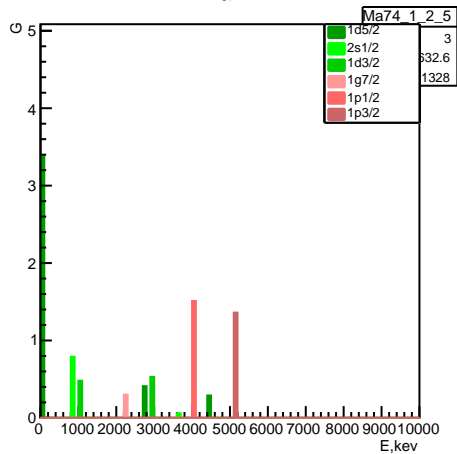
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9655.28 1d5/2 0.754333 0.924667

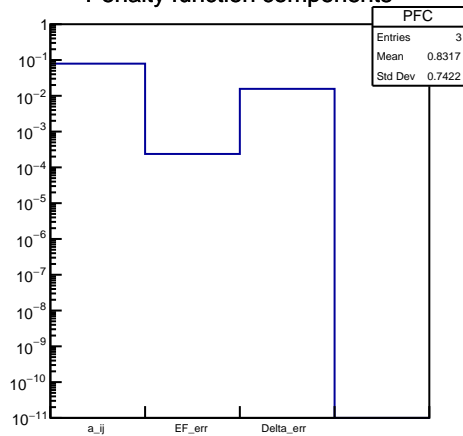
-3304.33 2s1/2 0.165 1.39

-4840.89 1d3/2 0.3075 0.895

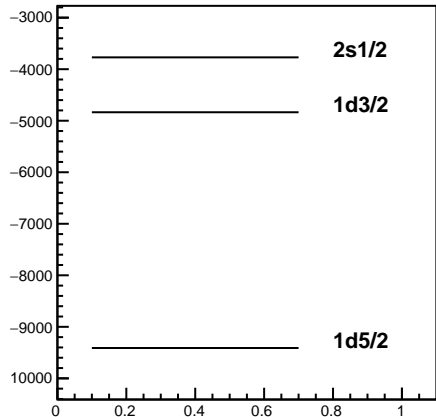
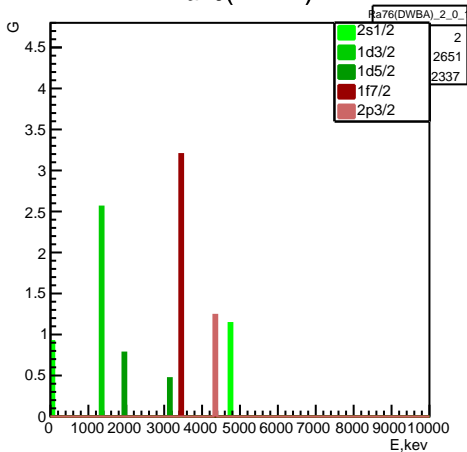
Ma74



Penalty function components



Ra76(DWBA)



Experiment: Ma74 (10) Ra76(DWBA) (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6928.33 \pm 193.657 \text{ keV}$ $\Delta: 4543.33 \pm 348.067 \text{ keV}$

penalty: 0.0316383

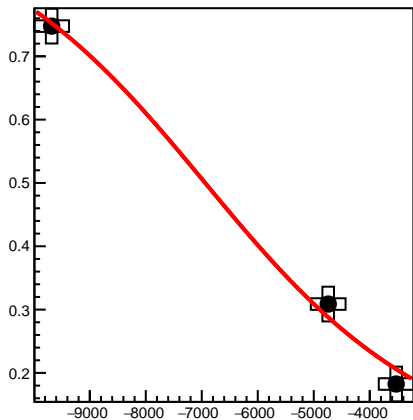
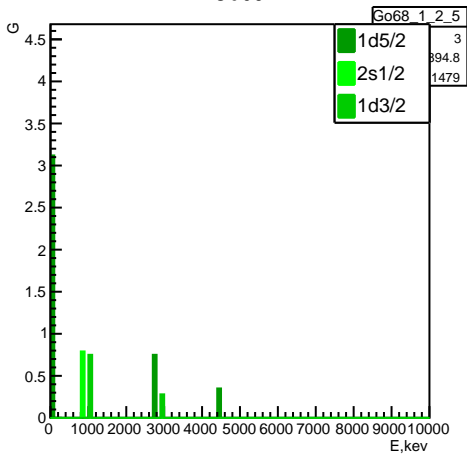
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9410.98 1d5/2 0.736833 0.889667

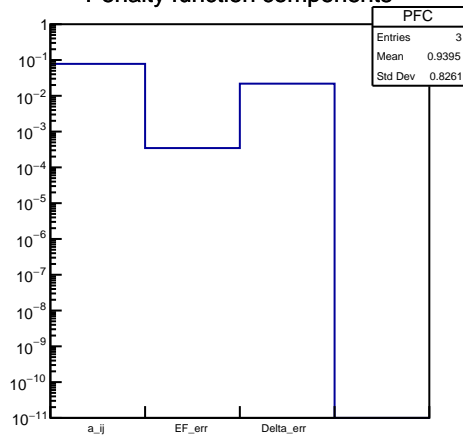
-3770.44 2s1/2 0.1975 1.455

-4835.69 1d3/2 0.30625 0.8925

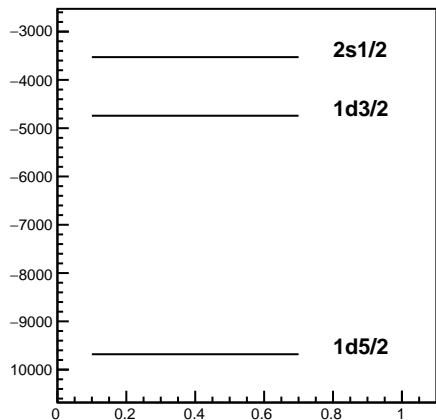
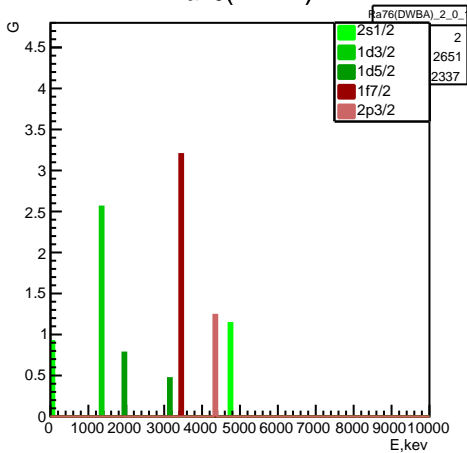
Go68



Penalty function components



Ra76(DWBA)



Experiment: Go68 (6) Ra76(DWBA) (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6939.1 \pm 282.848 \text{ keV}$ $\Delta: 4691.26 \pm 486.399 \text{ keV}$

penalty: 0.033374

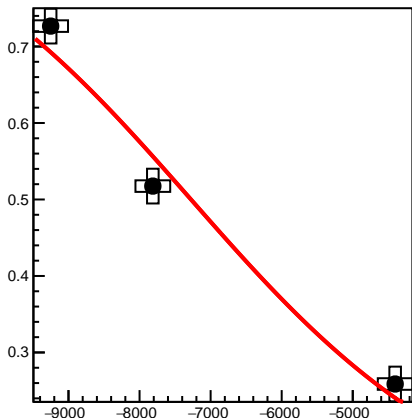
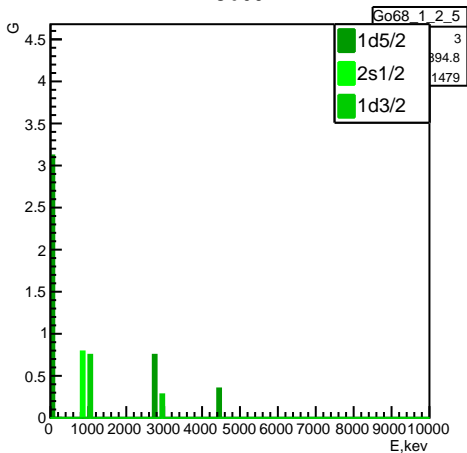
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9681.12 1d5/2 0.747667 0.911333

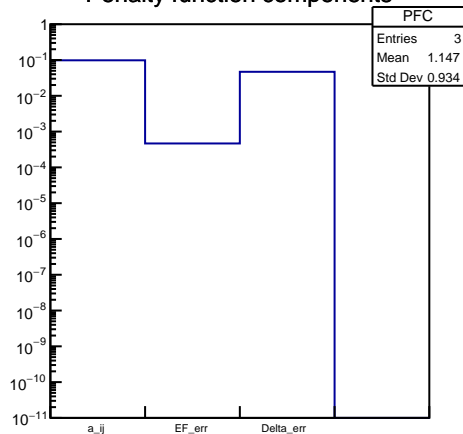
-3528.44 2s1/2 0.1825 1.425

-4741.94 1d3/2 0.30875 0.8975

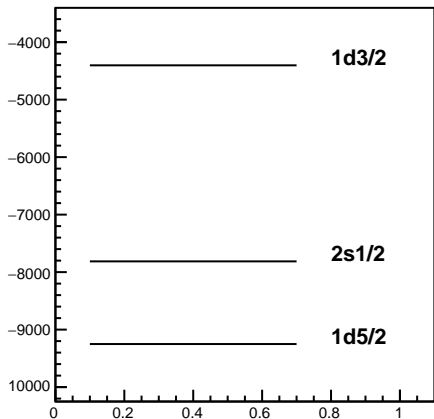
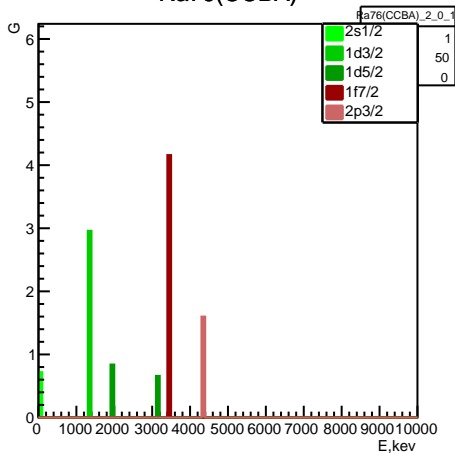
Go68



Penalty function components



Ra76(CCBA)



Experiment: Go68 (6) Ra76(CCBA) (6)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7276.05 \pm 380.327 \text{ keV}$ $\Delta: -4732.81 \pm 1042.63 \text{ keV}$

penalty: 0.0484392

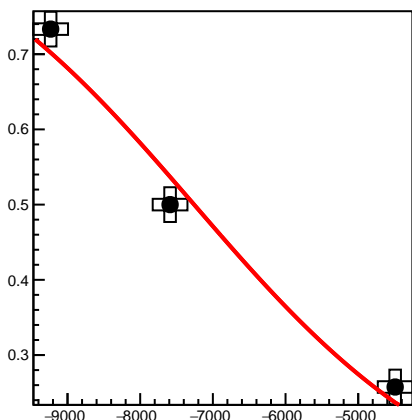
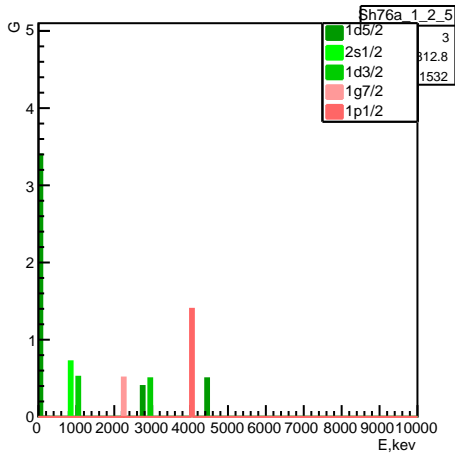
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9250.96 1d5/2 0.726667 0.953333

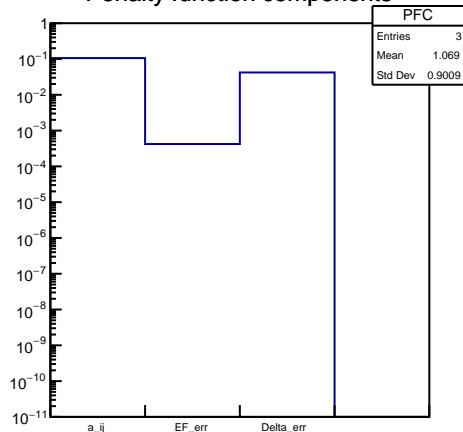
-7813.16 2s1/2 0.5175 0.755

-4403.43 1d3/2 0.25875 0.9975

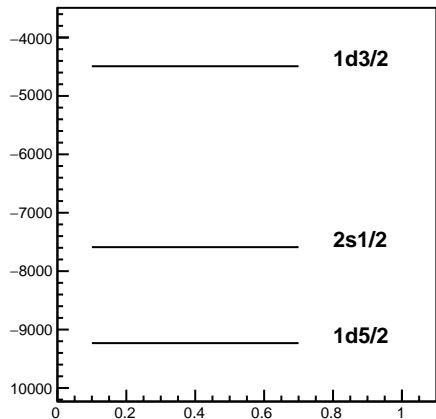
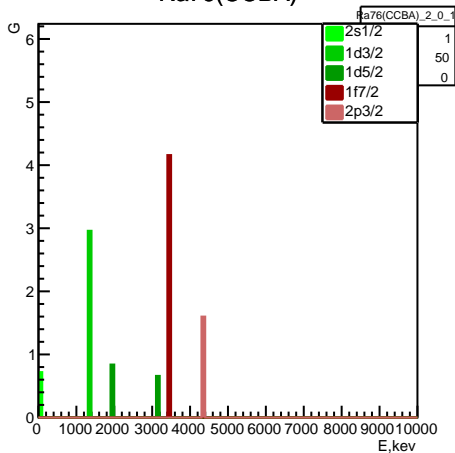
Sh76a



Penalty function components



Ra76(CCBA)



Experiment: Sh76a (8) Ra76(CCBA) (6)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7257.78 \pm 343.556 \text{ keV}$ $\Delta: 4469.11 \pm 937.847 \text{ keV}$

penalty: 0.0495417

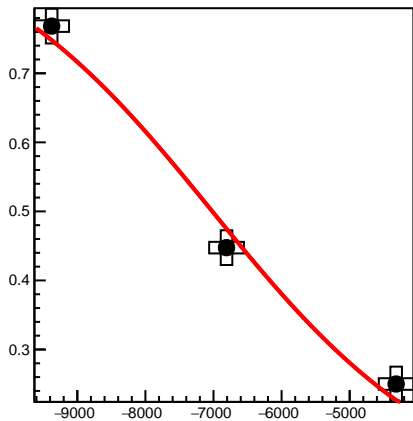
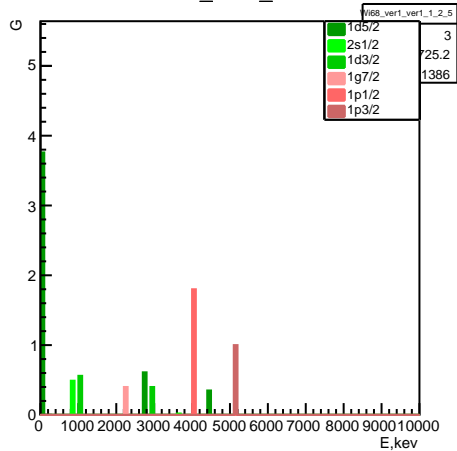
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9232.17 1d5/2 0.733333 0.966667

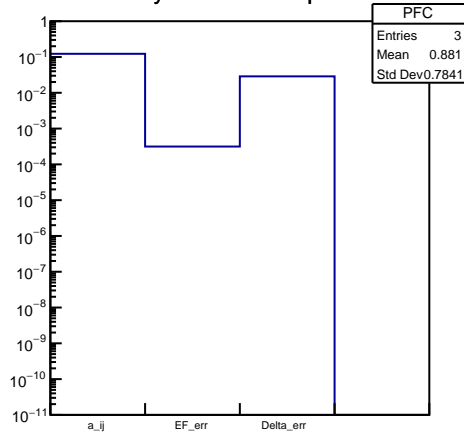
-7588.8 2s1/2 0.5 0.72

-4491.59 1d3/2 0.2575 0.995

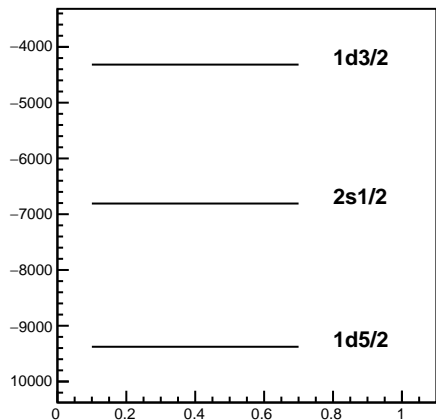
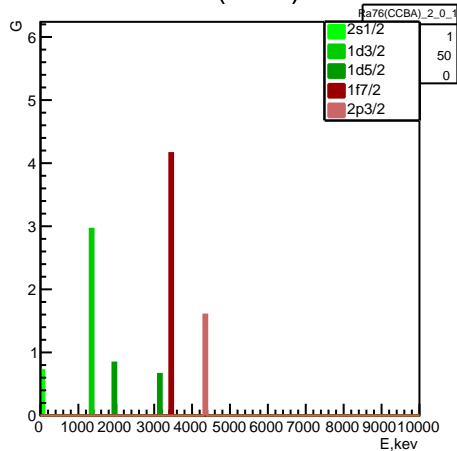
Wi68_ver1_ver1



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver1_ver1 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7016.82 \pm 257.031 keV

Δ : -4131.97 \pm 641.134 keV

penalty: 0.0506229

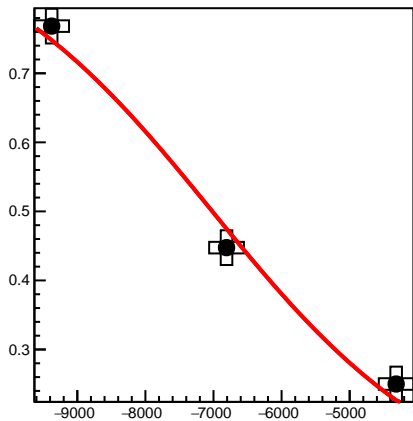
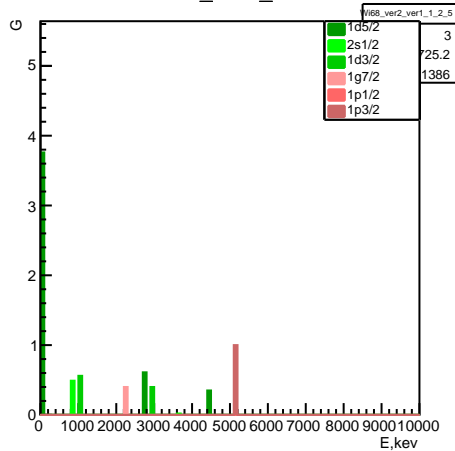
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

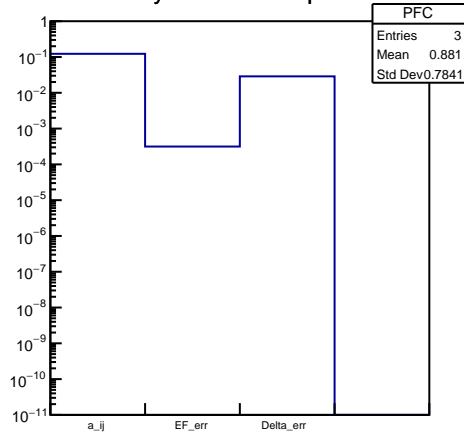
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

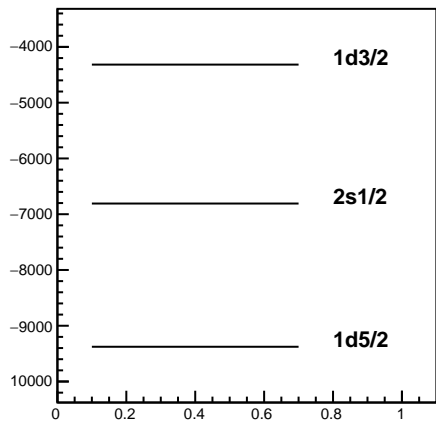
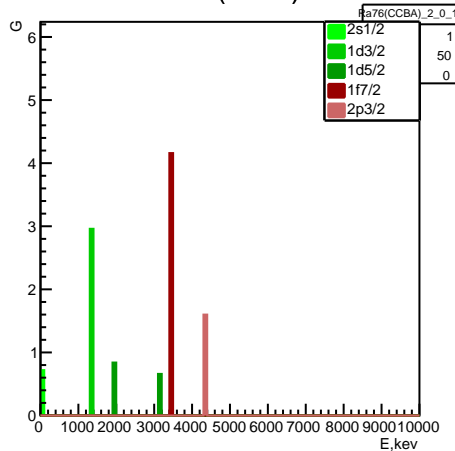
Wi68_ver2_ver1



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver2_ver1 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7016.82 \pm 257.031$ keV $\Delta: -4131.97 \pm 641.134$ keV

penalty: 0.0506229

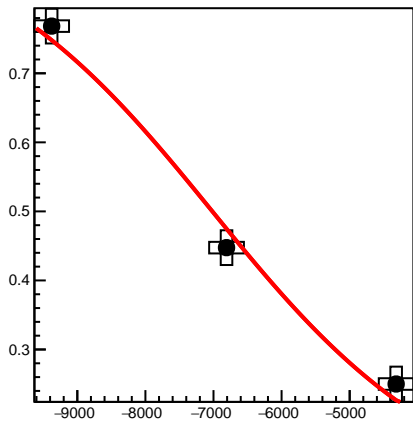
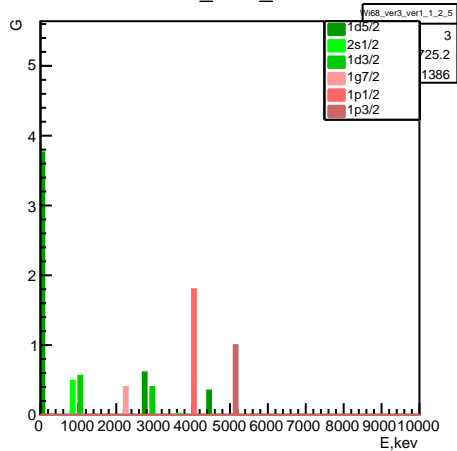
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

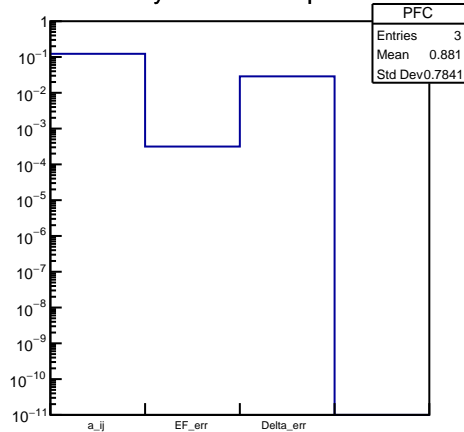
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

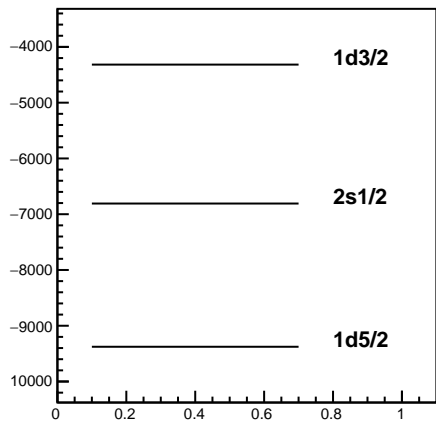
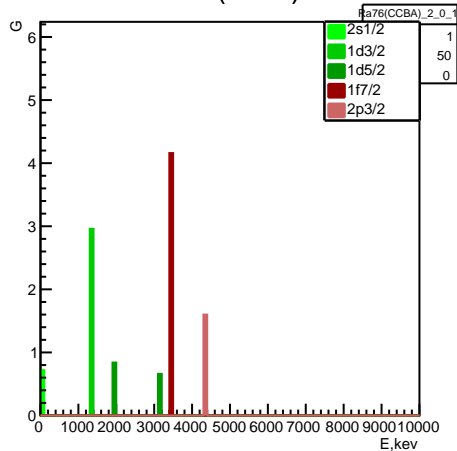
Wi68_ver3_ver1



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver3_ver1 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7016.82 \pm 257.031$ keV $\Delta: -4131.97 \pm 641.134$ keV

penalty: 0.0506229

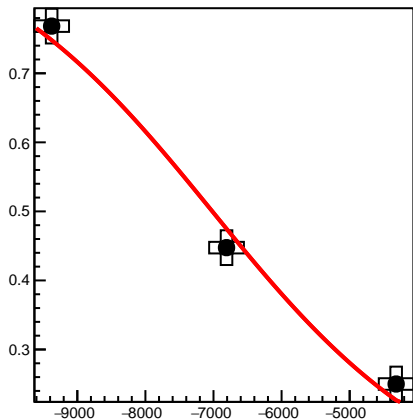
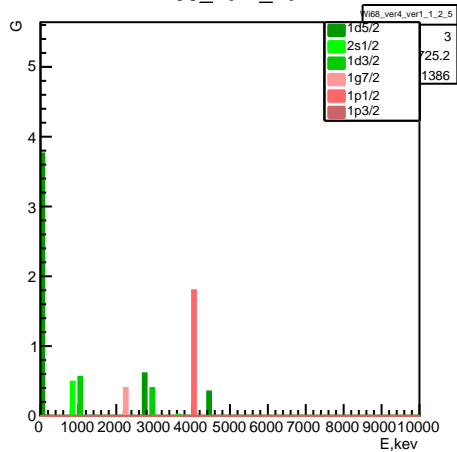
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

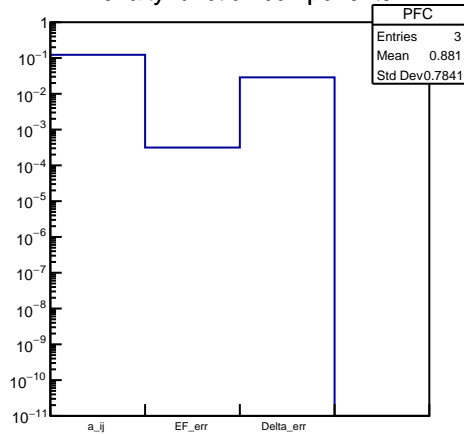
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

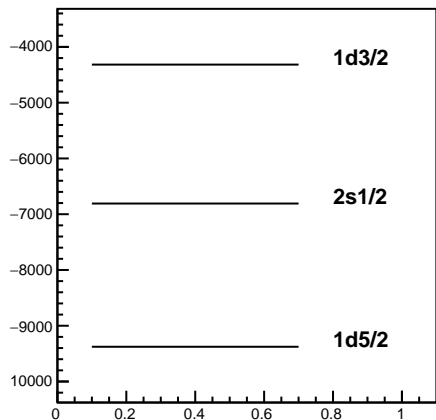
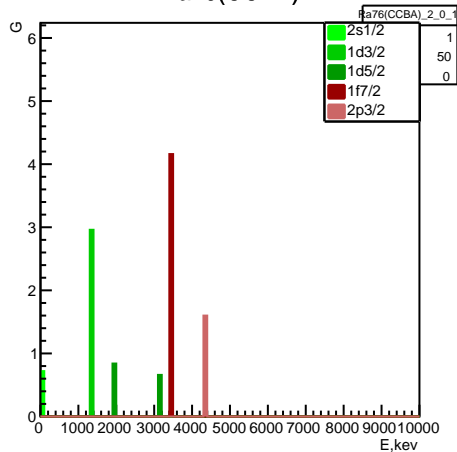
Wi68_ver4_ver1



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver4_ver1 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7016.82 \pm 257.031$ keV $\Delta: -4131.97 \pm 641.134$ keV

penalty: 0.0506229

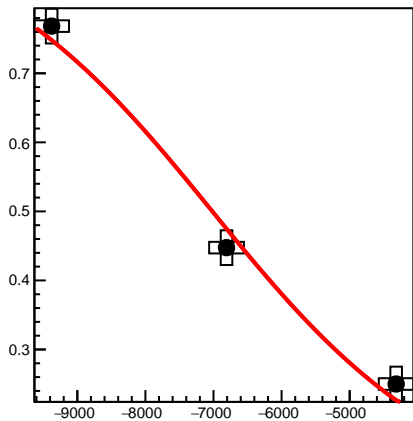
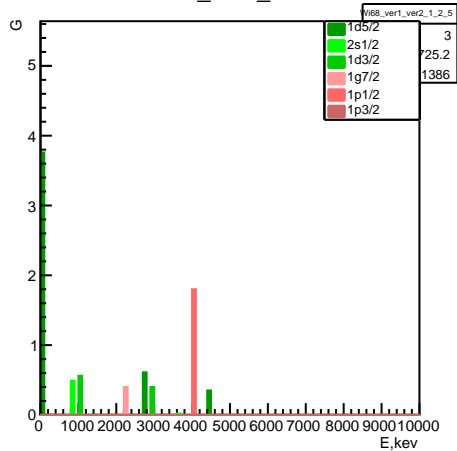
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

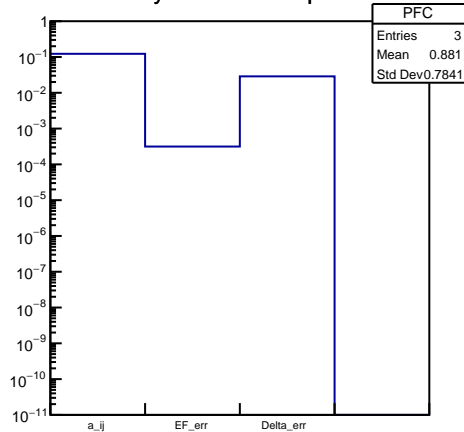
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

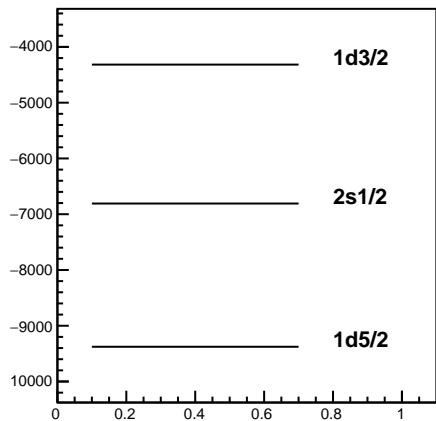
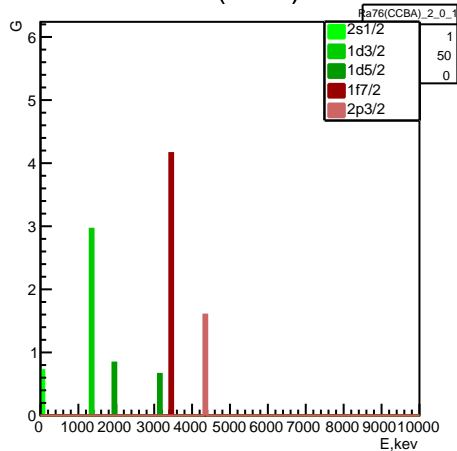
Wi68_ver1_ver2



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver1_ver2 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F : -7016.82 ± 257.031 keV

Δ : -4131.97 ± 641.134 keV

penalty: 0.0506229

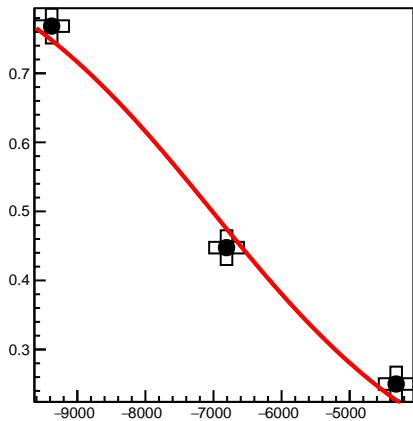
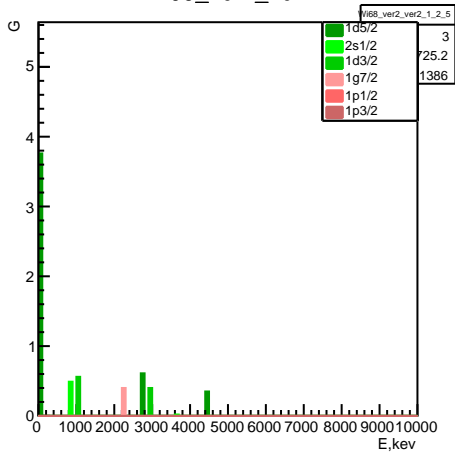
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

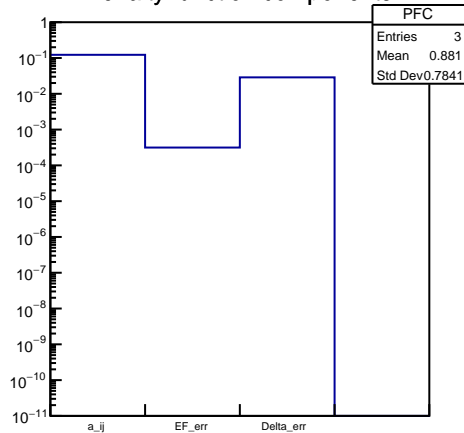
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

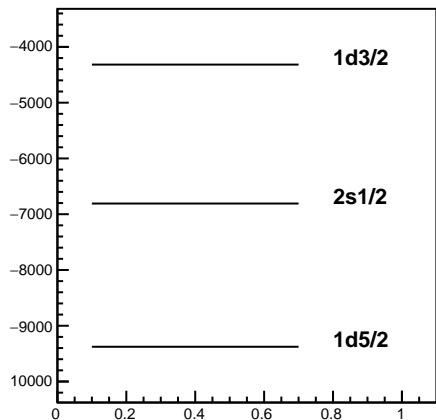
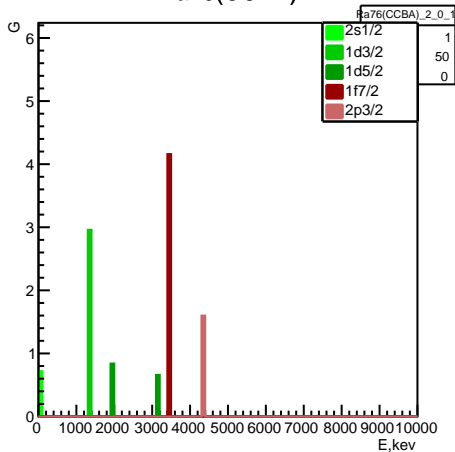
Wi68_ver2_ver2



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver2_ver2 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F : -7016.82 ± 257.031 keV

Δ : -4131.97 ± 641.134 keV

penalty: 0.0506229

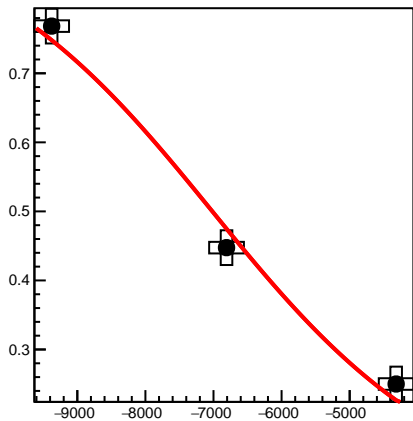
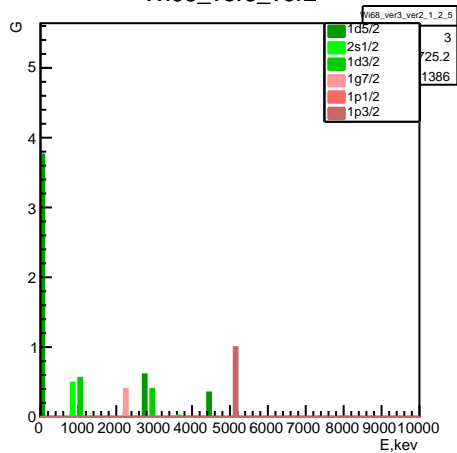
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

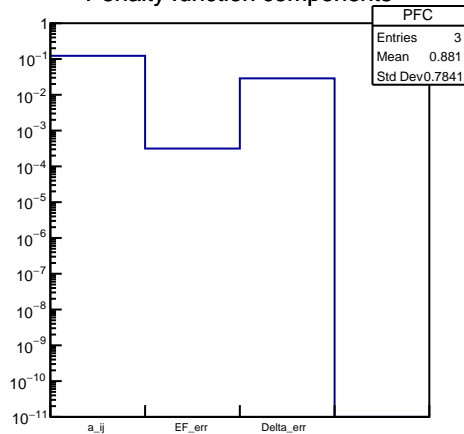
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

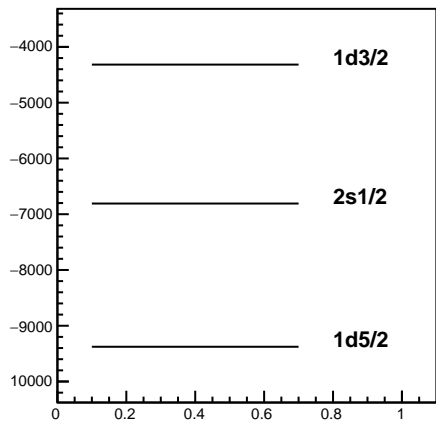
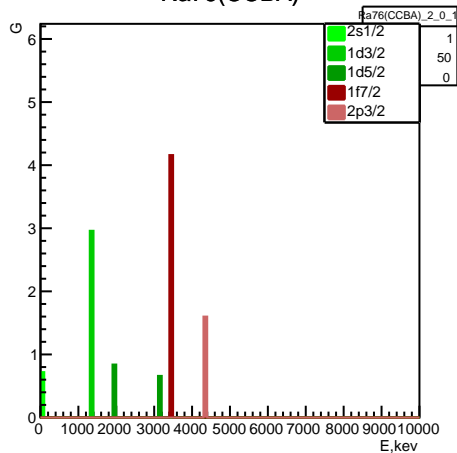
Wi68_ver3_ver2



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver3_ver2 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7016.82 \pm 257.031 keV

Δ : -4131.97 \pm 641.134 keV

penalty: 0.0506229

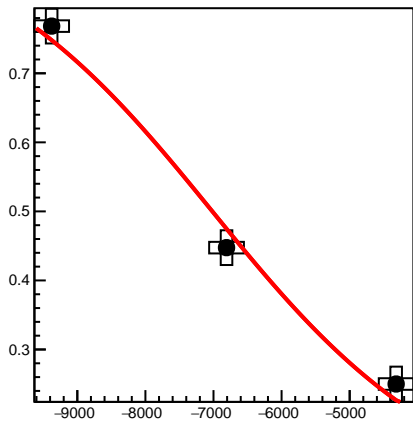
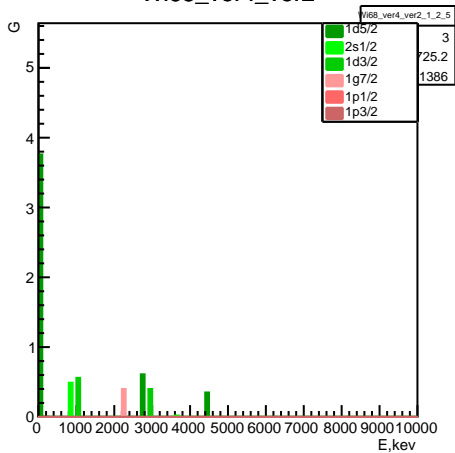
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

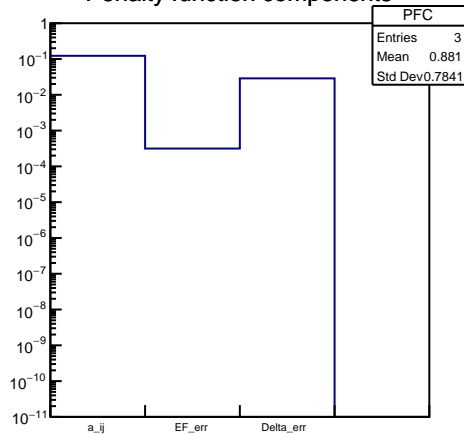
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

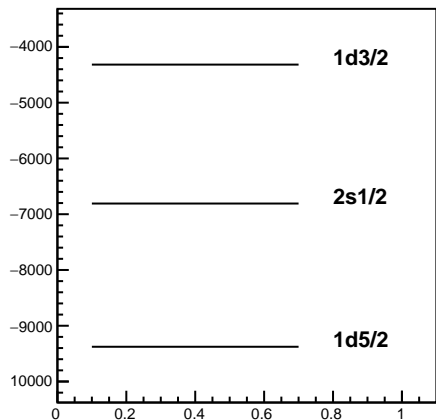
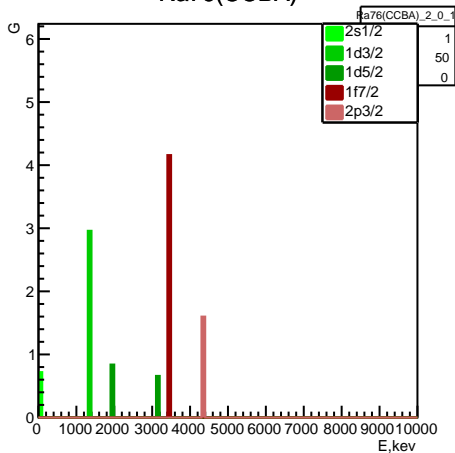
Wi68_ver4_ver2



Penalty function components



Ra76(CCBA)



Experiment: Wi68_ver4_ver2 (10) Ra76(CCB

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7016.82 \pm 257.031$ keV $\Delta: -4131.97 \pm 641.134$ keV

penalty: 0.0506229

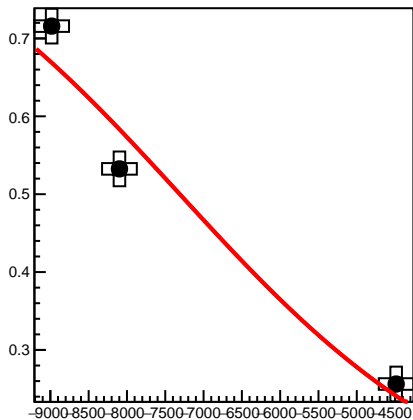
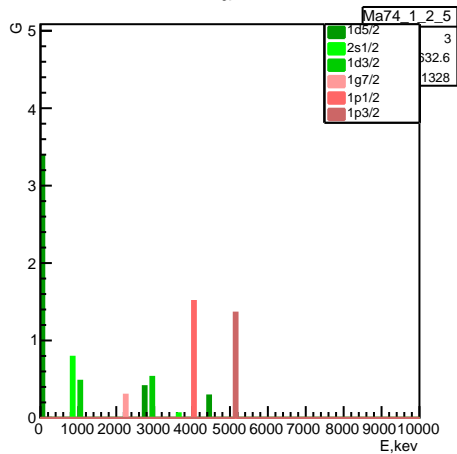
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-9377.03 1d5/2 0.768333 1.03667

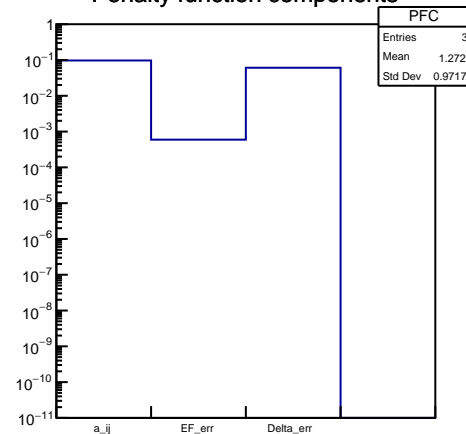
-6808.59 2s1/2 0.4475 0.615

-4317.3 1d3/2 0.25 0.98

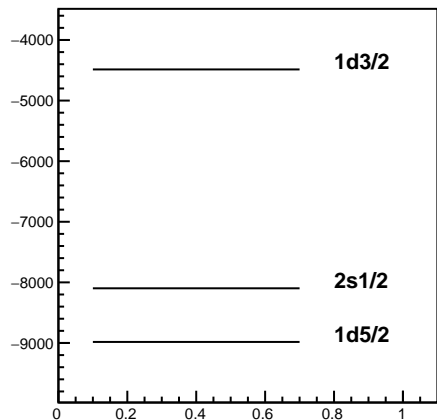
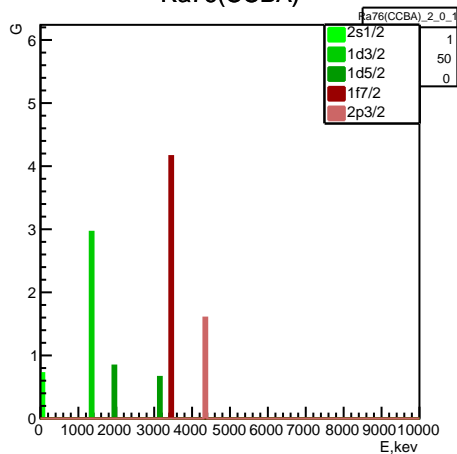
Ma74



Penalty function components



Ra76(CCBA)



Experiment: Ma74 (10) Ra76(CCBA) (6)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7310.01 \pm 485.879 \text{ keV}$ $\Delta: 4662.17 \pm 1354.45 \text{ keV}$

penalty: 0.0527771

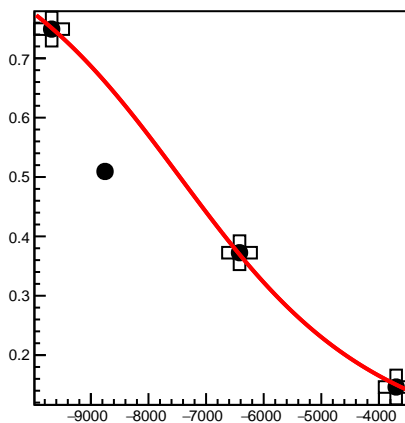
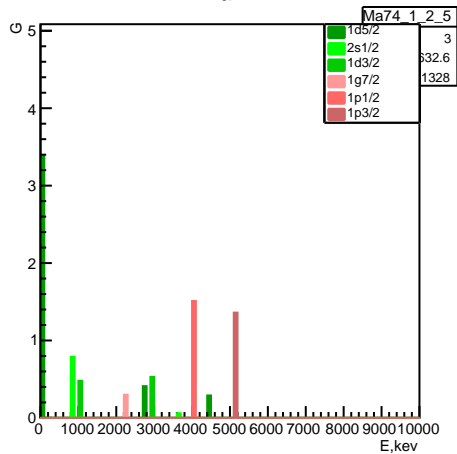
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-8983 1d5/2 0.715833 0.931667

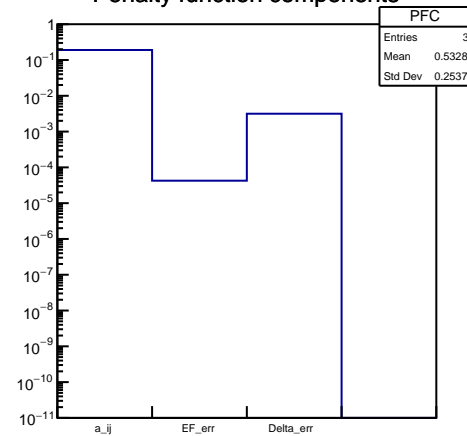
-8097.96 2s1/2 0.5325 0.785

-4486.03 1d3/2 0.25625 0.9925

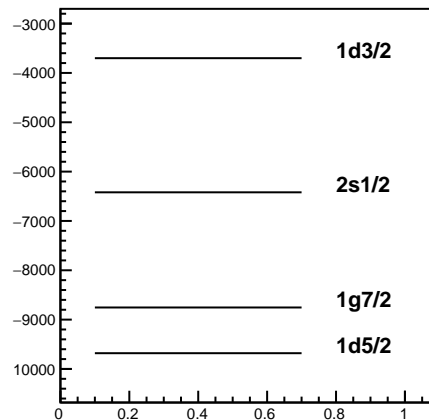
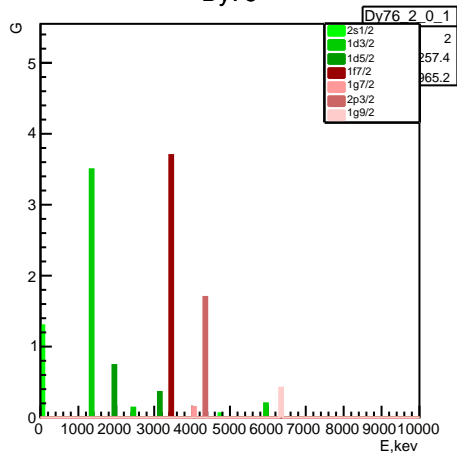
Ma74



Penalty function components



Dy76



Experiment: Ma74 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7455.36 \pm 34.6689 \text{ keV}$ $\Delta: 3833.83 \pm 70.295 \text{ keV}$

penalty: 0.0645033

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

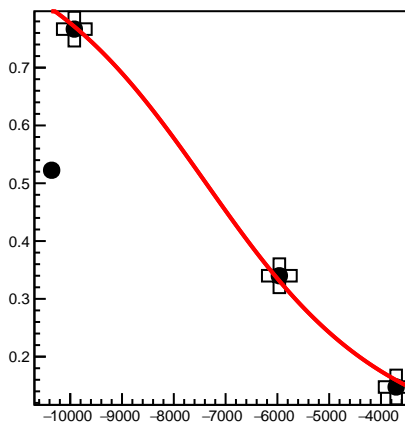
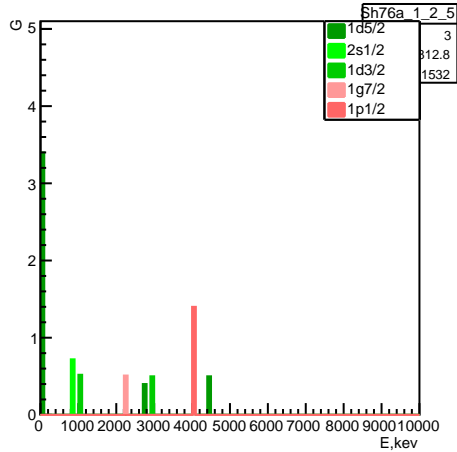
-9680.65 1d5/2 0.749167 0.865

-6419.69 2s1/2 0.3725 1.105

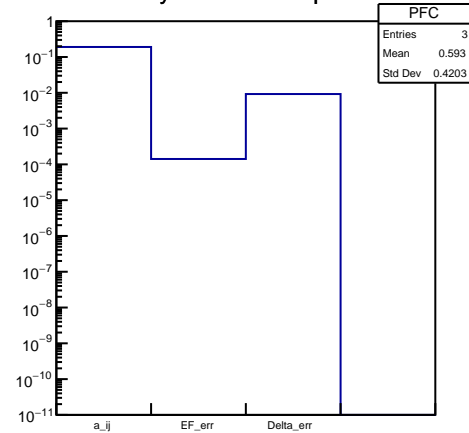
-3700.75 1d3/2 0.14625 1.2125

-8754.11 1g7/2 0.509375 0.05625

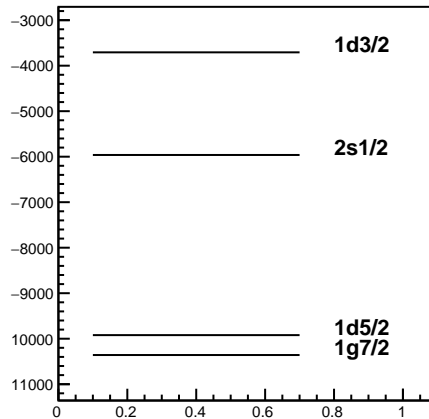
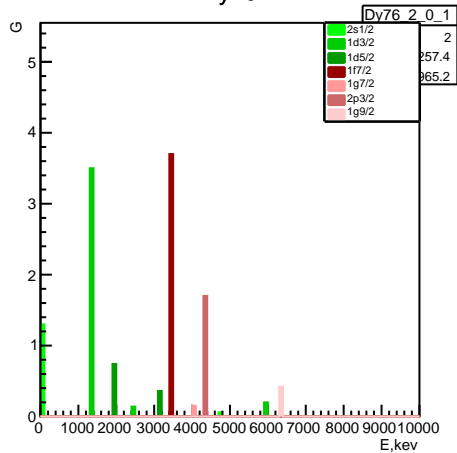
Sh76a



Penalty function components



Dy76



Experiment: Sh76a (8) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7376.66 \pm 115.523 \text{ keV}$ $\Delta: -3942.5 \pm 205.655 \text{ keV}$

penalty: 0.066656

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

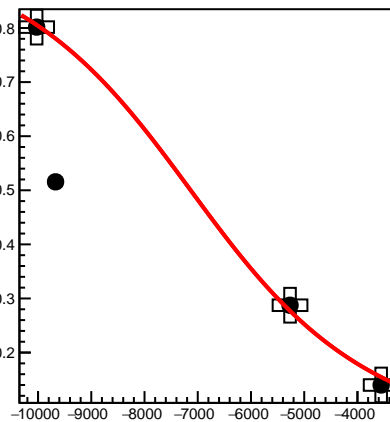
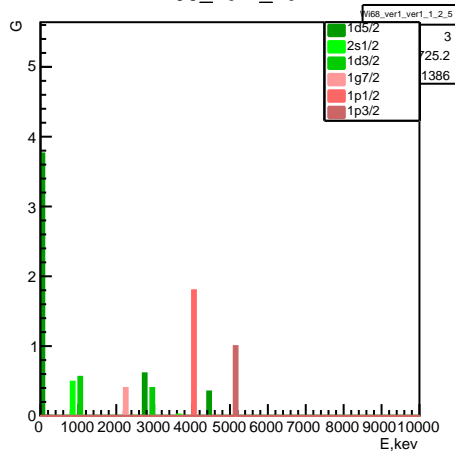
-9921.15 1d5/2 0.766667 0.9

-5962.3 2s1/2 0.34 1.04

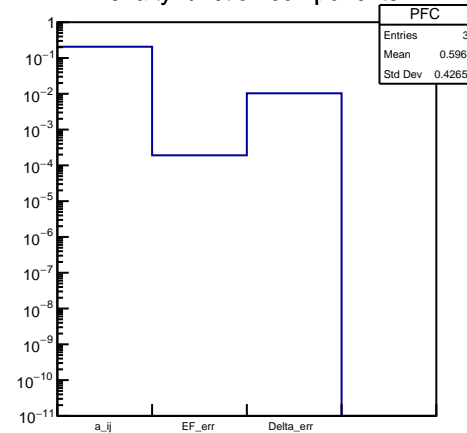
-3706.91 1d3/2 0.1475 1.215

-10358.7 1g7/2 0.5225 0.0825

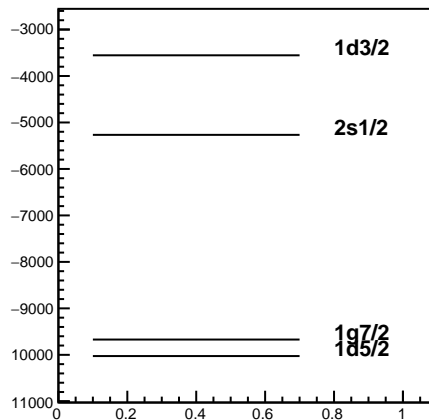
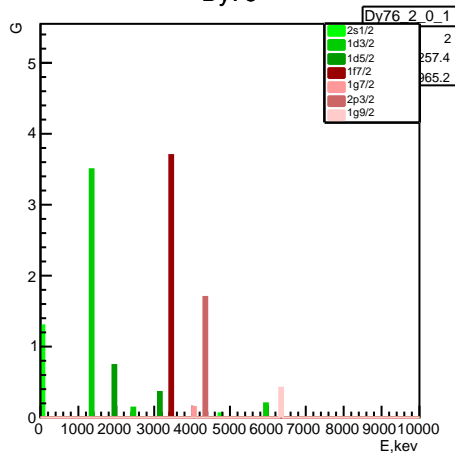
Wi68_ver1_ver1



Penalty function components



Dy76



Experiment: Wi68_ver1_ver1 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

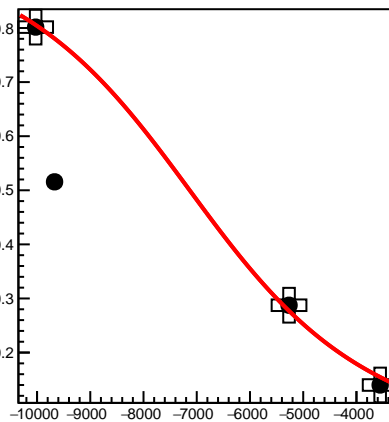
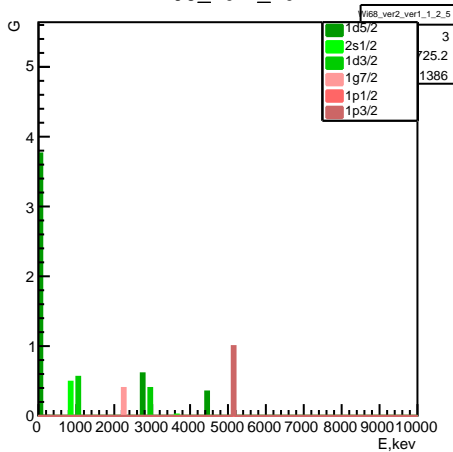
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

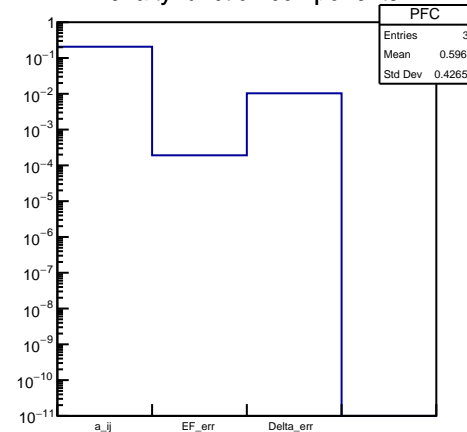
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

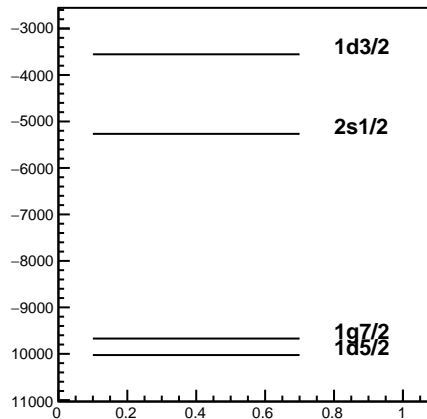
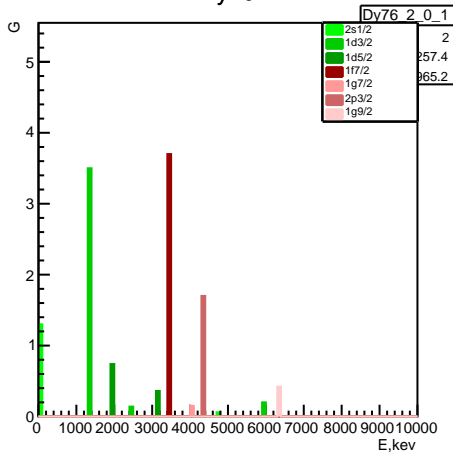
Wi68_ver2_ver1



Penalty function components



Dy76



Experiment: Wi68_ver2_ver1 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

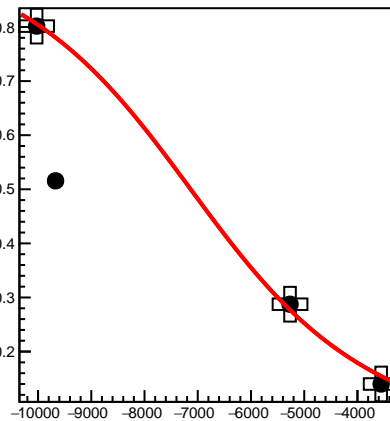
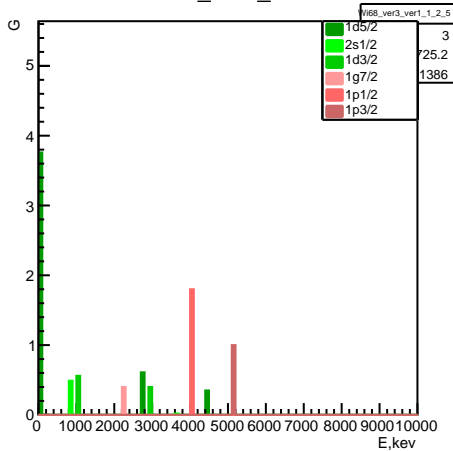
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

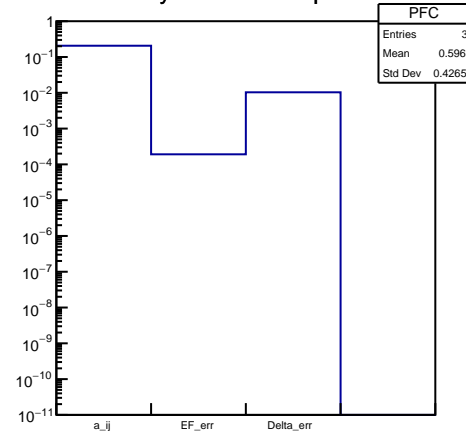
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

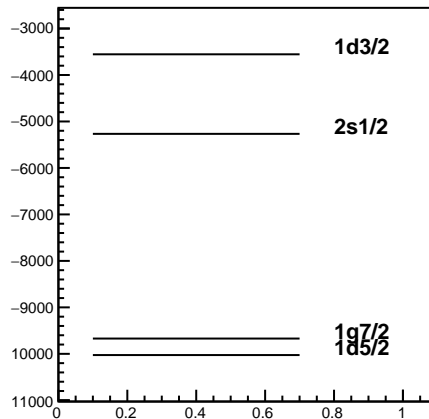
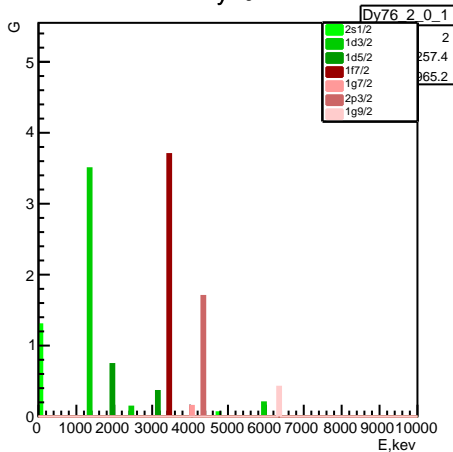
Wi68_ver3_ver1



Penalty function components



Dy76



Experiment: Wi68_ver3_ver1 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

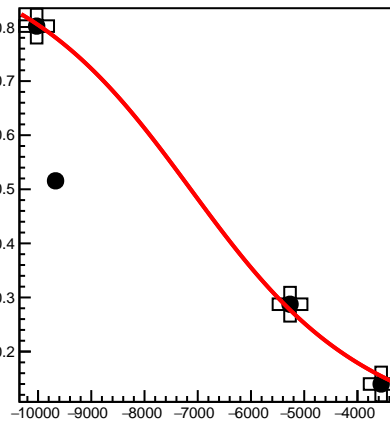
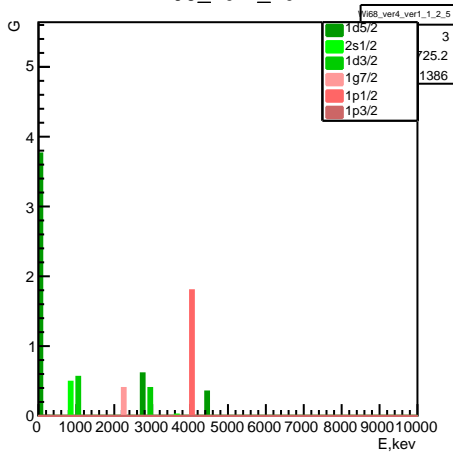
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

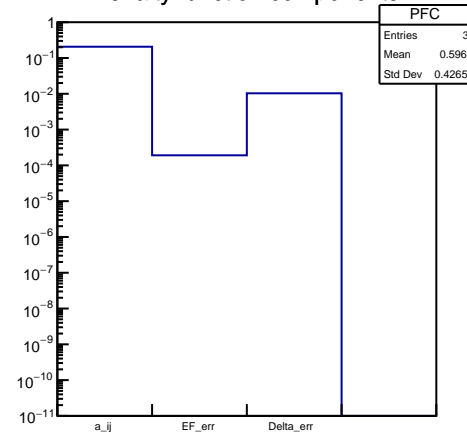
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

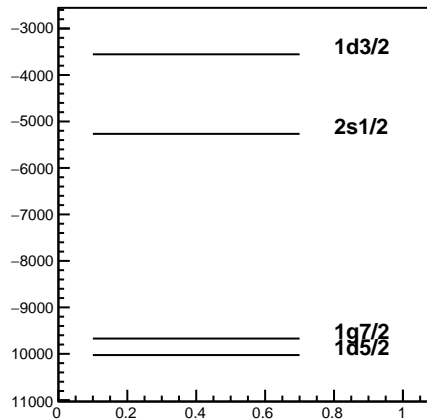
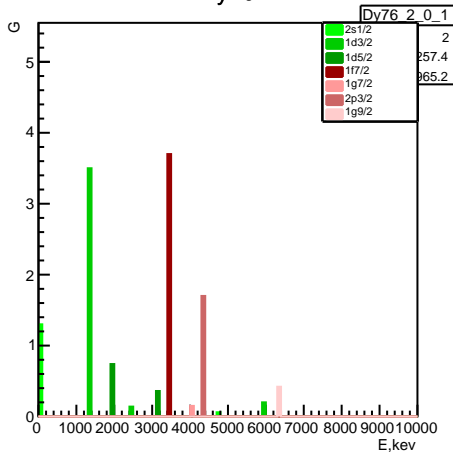
Wi68_ver4_ver1



Penalty function components



Dy76



Experiment: Wi68_ver4_ver1 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7132.81 \pm 155.989 keV Δ : 3745.6 \pm 230.011 keV

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

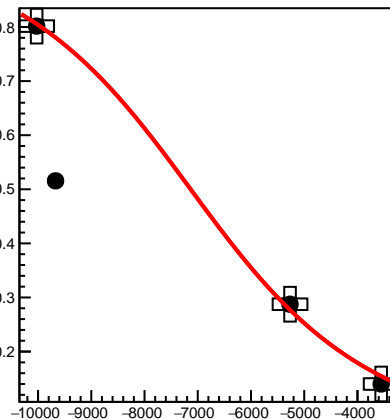
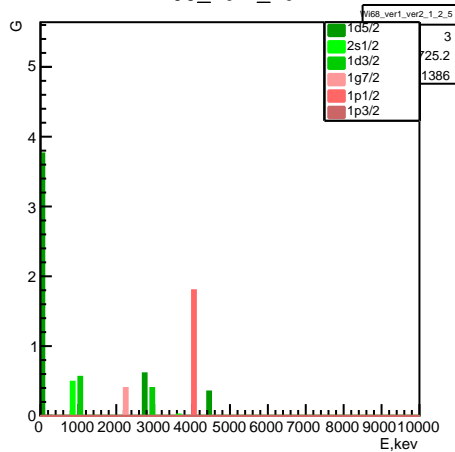
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

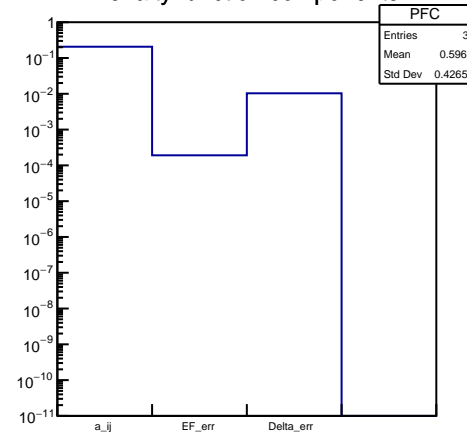
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

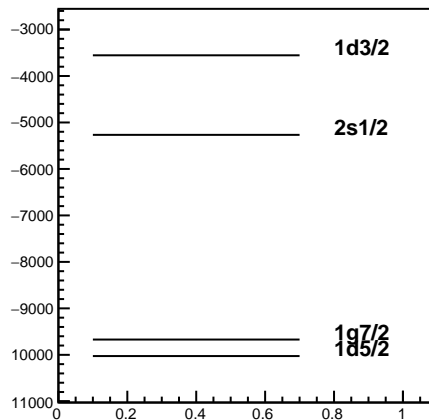
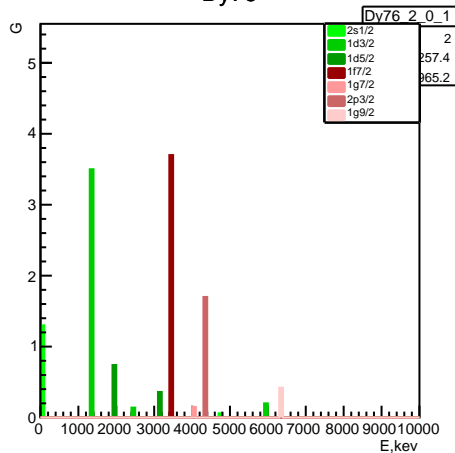
Wi68_ver1_ver2



Penalty function components



Dy76



Experiment: Wi68_ver1_ver2 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

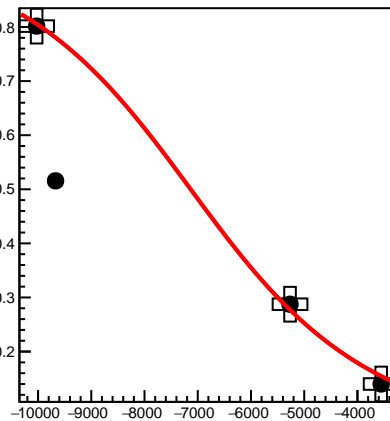
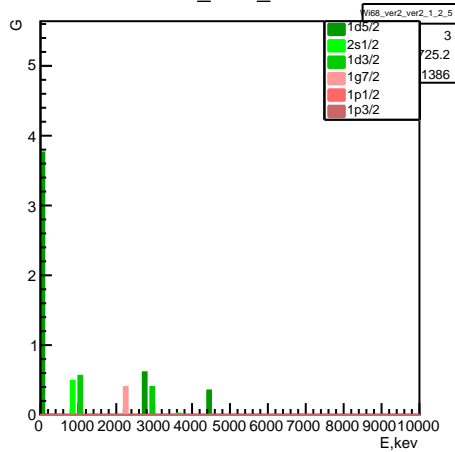
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

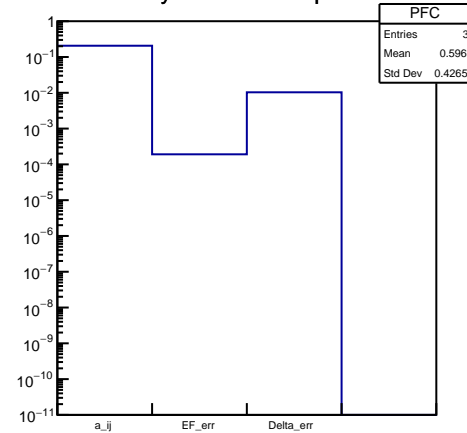
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

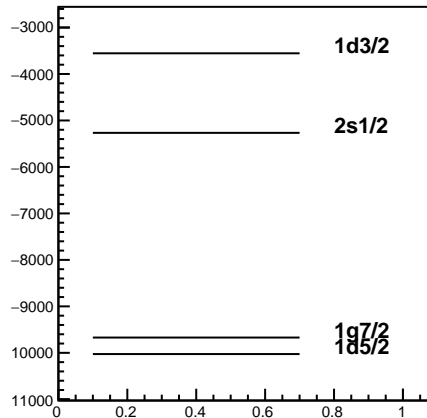
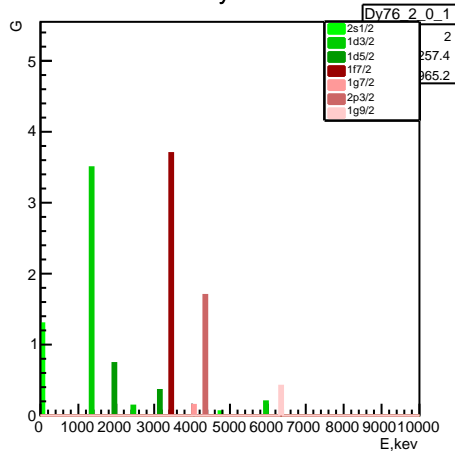
Wi68_ver2_ver2



Penalty function components



Dy76



Experiment: Wi68_ver2_ver2 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

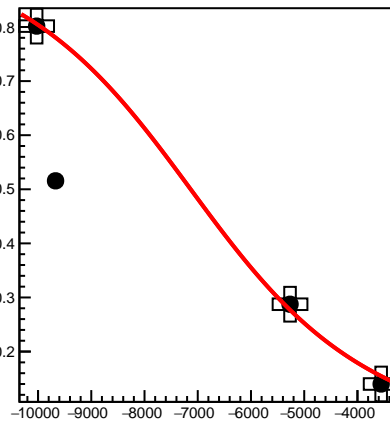
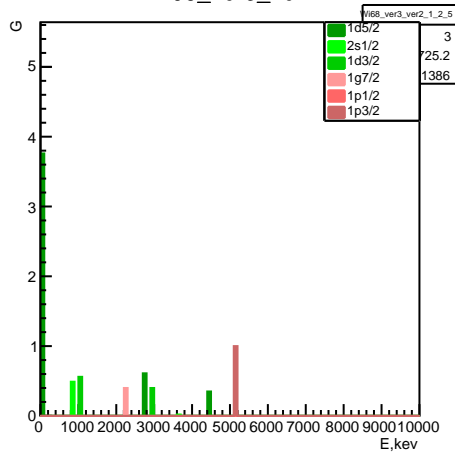
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

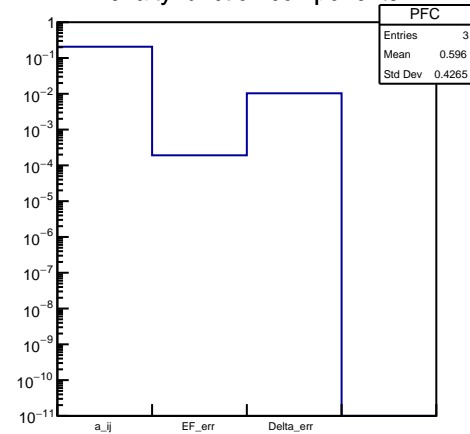
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

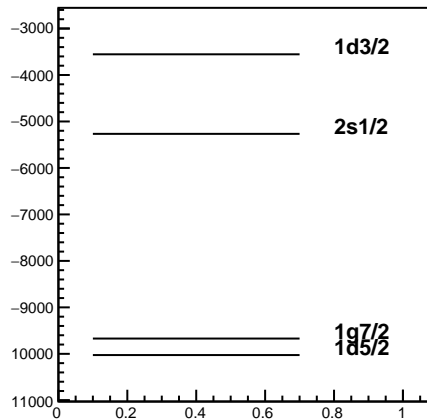
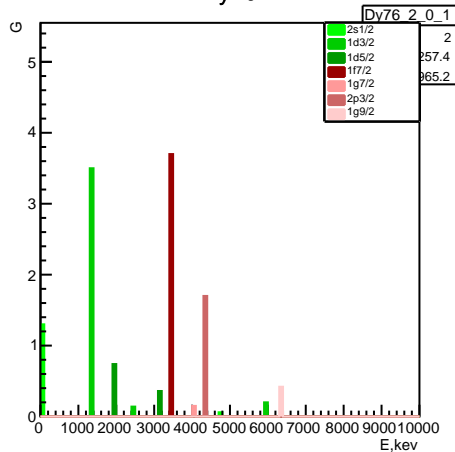
Wi68_ver3_ver2



Penalty function components



Dy76



Experiment: Wi68_ver3_ver2 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

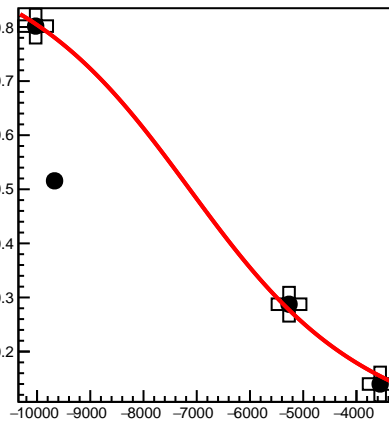
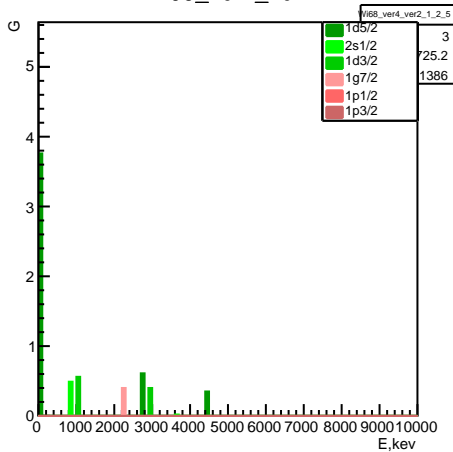
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

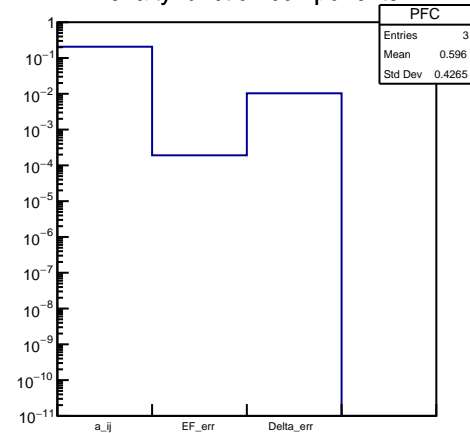
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

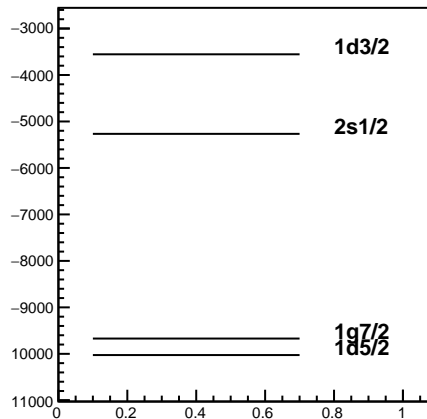
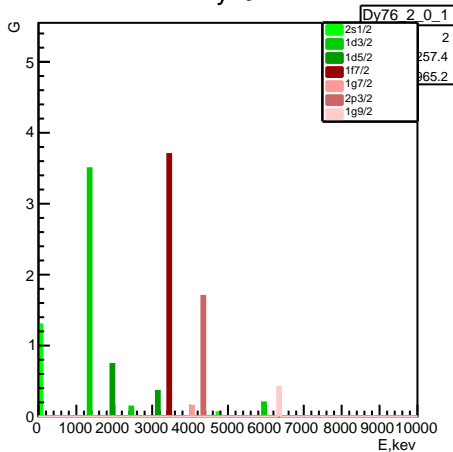
Wi68_ver4_ver2



Penalty function components



Dy76



Experiment: Wi68_ver4_ver2 (10) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7132.81 \pm 155.989 \text{ keV}$ $\Delta: 3745.6 \pm 230.011 \text{ keV}$

penalty: 0.072359

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

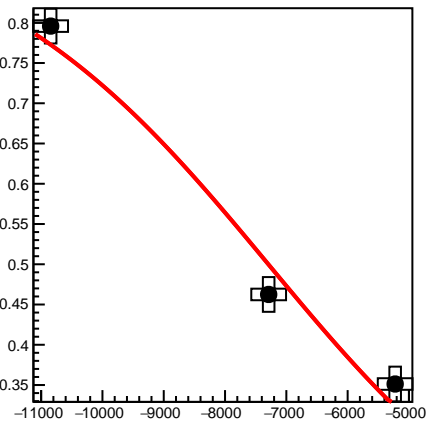
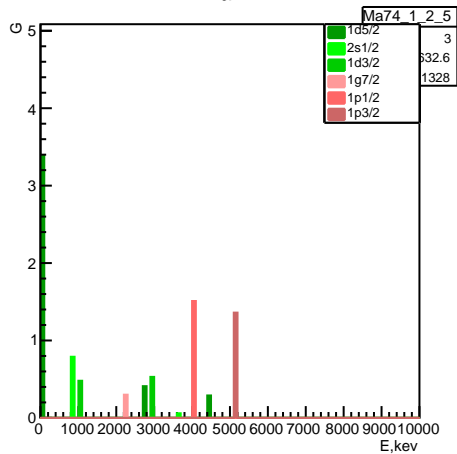
-10026.2 1d5/2 0.801667 0.97

-5266.46 2s1/2 0.2875 0.935

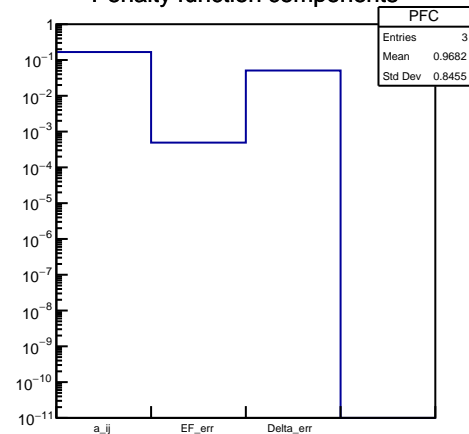
-3554.77 1d3/2 0.14 1.2

-9671 1g7/2 0.515625 0.06875

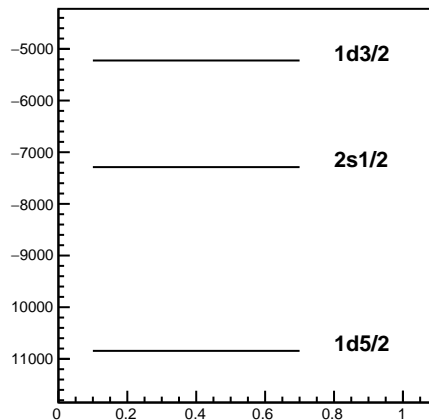
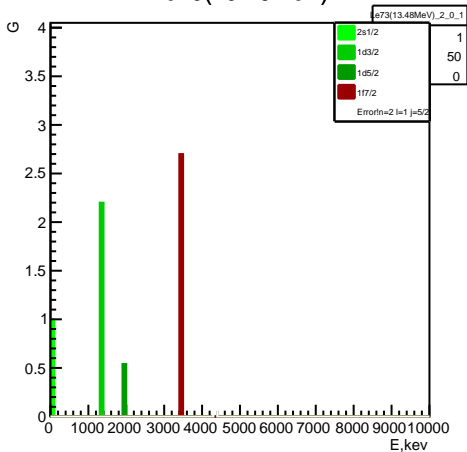
Ma74



Penalty function components



Le73(13.48MeV)



Experiment: Ma74 (10) Le73(13.48MeV) (5)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7293.79 \pm 401.568 \text{ keV}$ $\Delta: 5455.54 \pm 1133.09 \text{ keV}$

penalty: 0.0727642

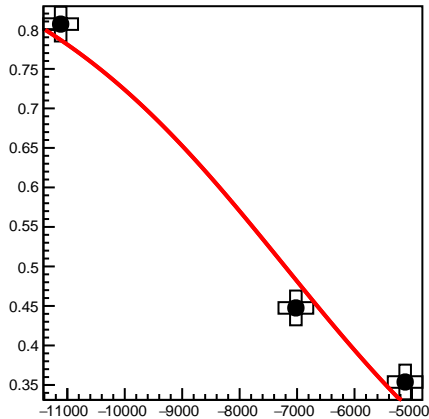
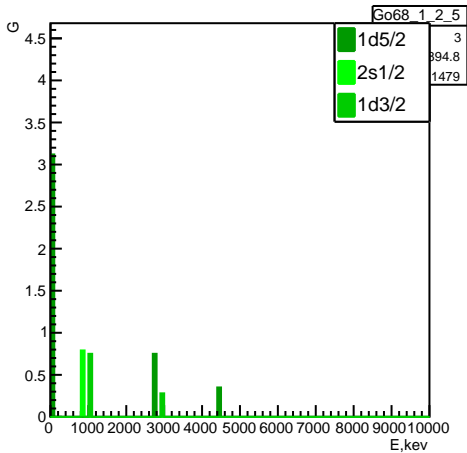
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10845 1d5/2 0.795833 0.771667

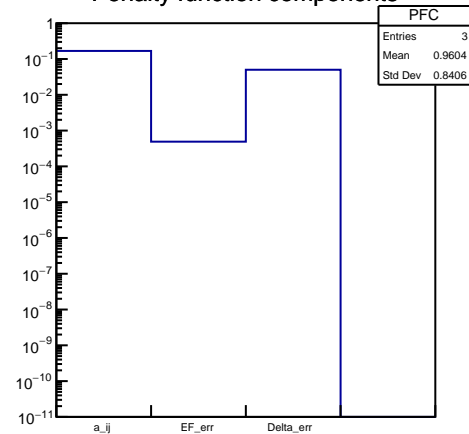
-7288.37 2s1/2 0.4625 0.925

-5224.9 1d3/2 0.35125 0.8025

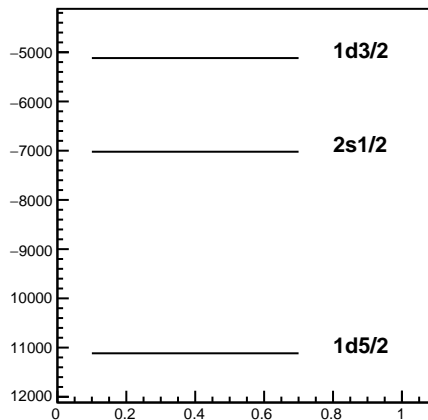
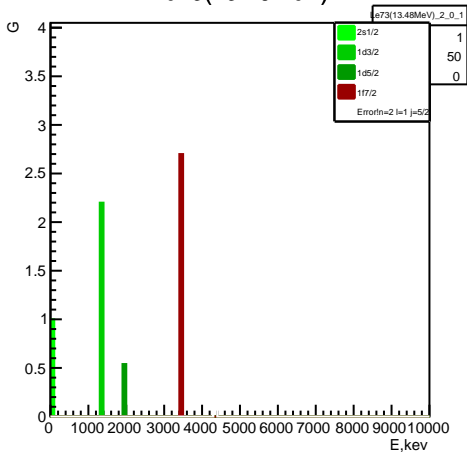
Go68



Penalty function components



Le73(13.48MeV)



Experiment: Go68 (6) Le73(13.48MeV) (5)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7210.11 \pm 400.264 \text{ keV}$ $\Delta: 5583.1 \pm 1115.91 \text{ keV}$

penalty: 0.0728771

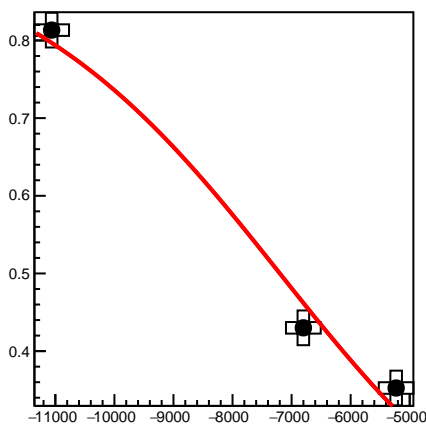
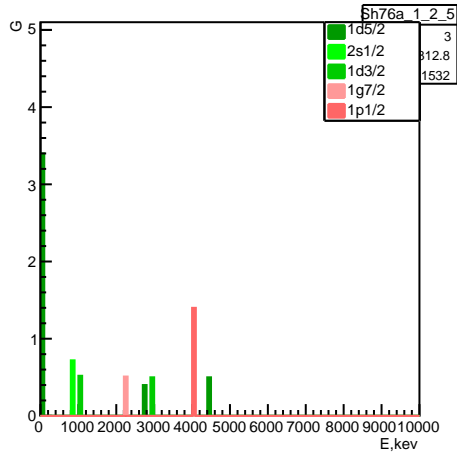
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-1116.1 1d5/2 0.806667 0.793333

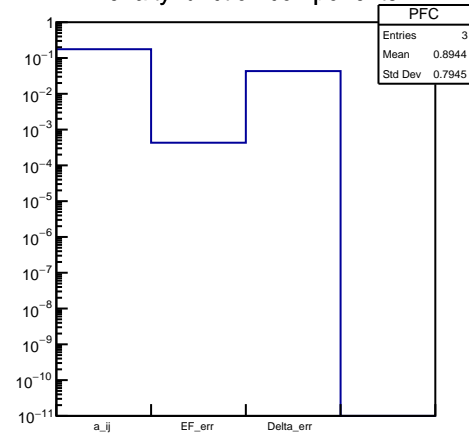
-7020.98 2s1/2 0.4475 0.895

-5118.28 1d3/2 0.35375 0.8075

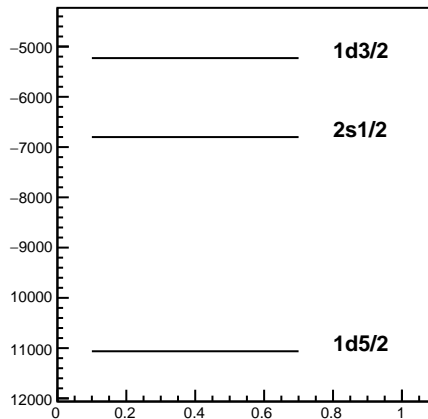
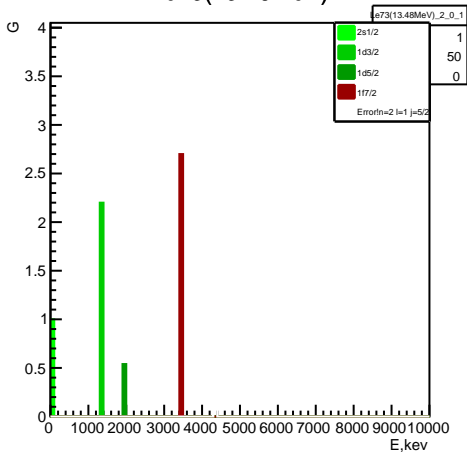
Sh76a



Penalty function components



Le73(13.48MeV)



Experiment: Sh76a (8) Le73(13.48MeV) (5)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7198.66 \pm 350.64$ keV $\Delta: 5233.87 \pm 960.195$ keV

penalty: 0.0732123

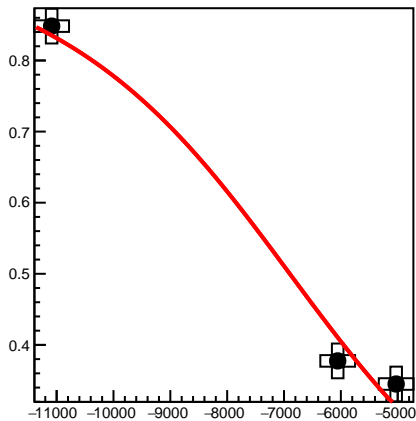
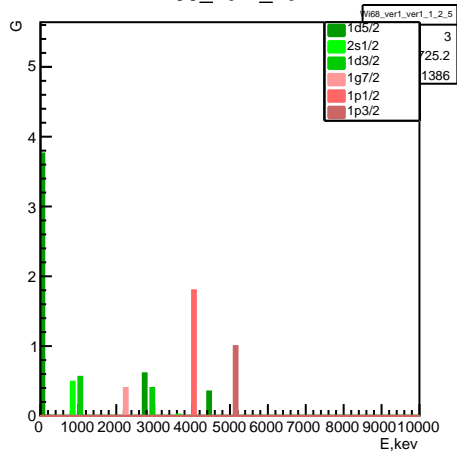
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11062.8 1d5/2 0.813333 0.806667

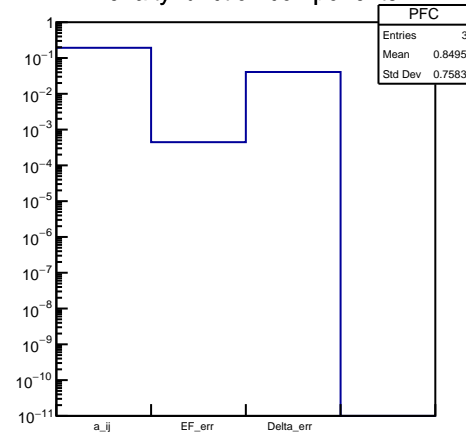
-6800.9 2s1/2 0.43 0.86

-5229.47 1d3/2 0.3525 0.805

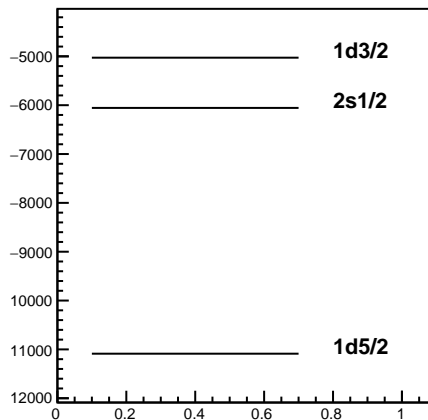
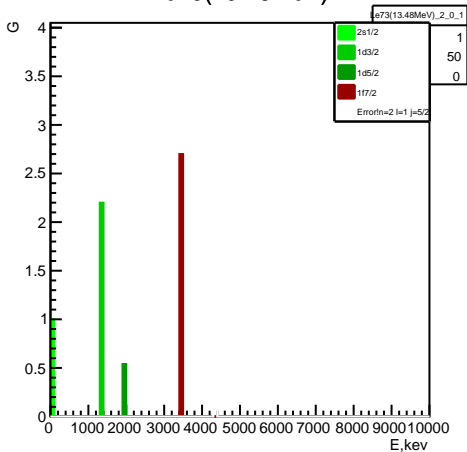
Wi68_ver1_ver1



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver1_ver1 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

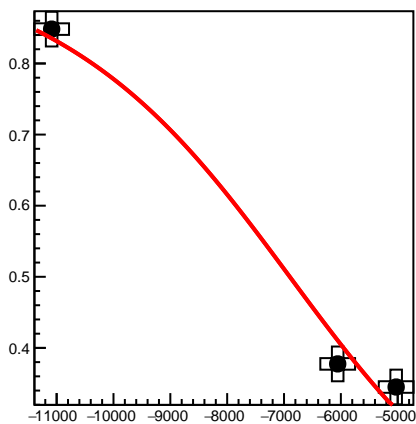
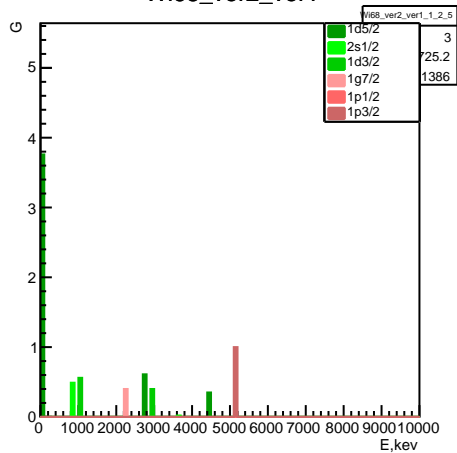
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

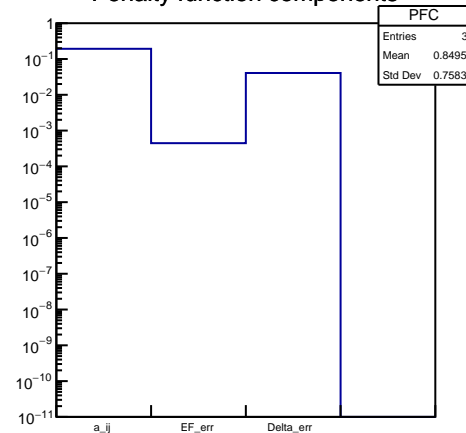
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

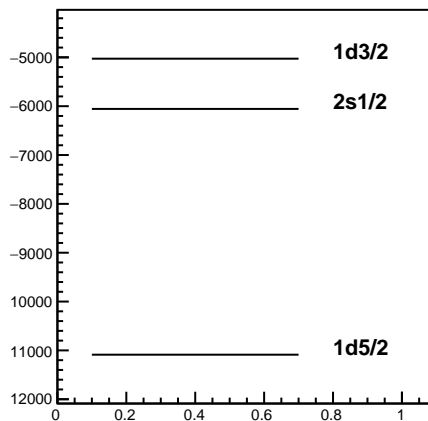
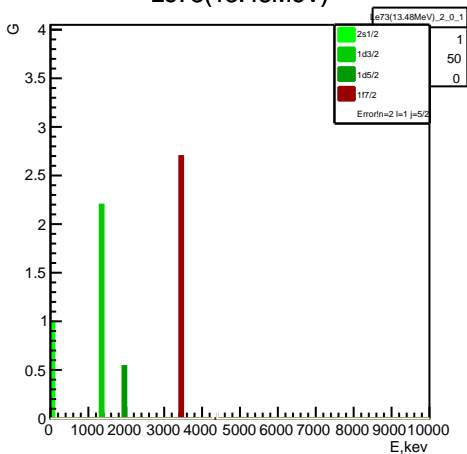
Wi68_ver2_ver1



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver2_ver1 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

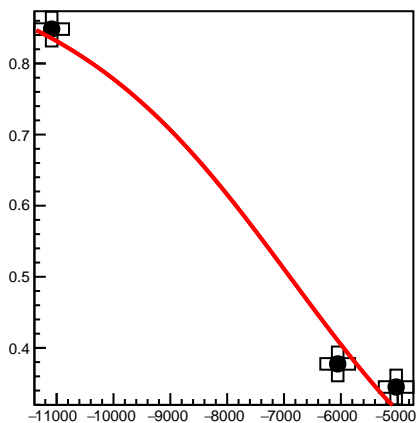
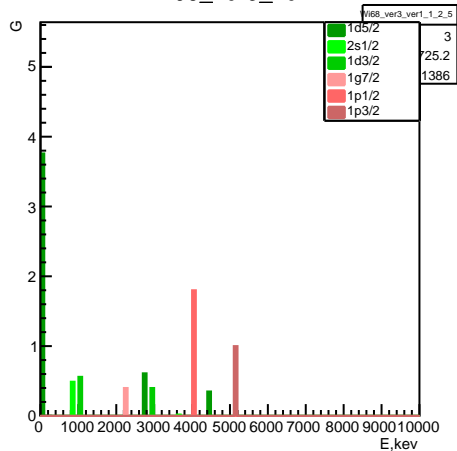
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

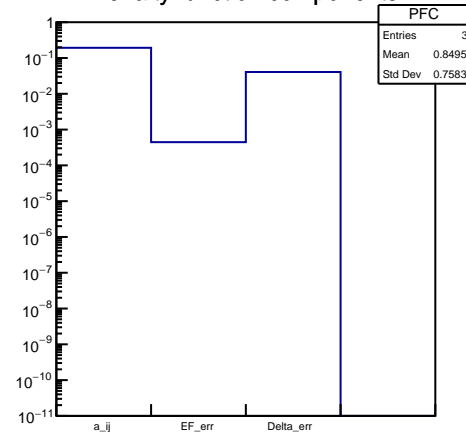
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

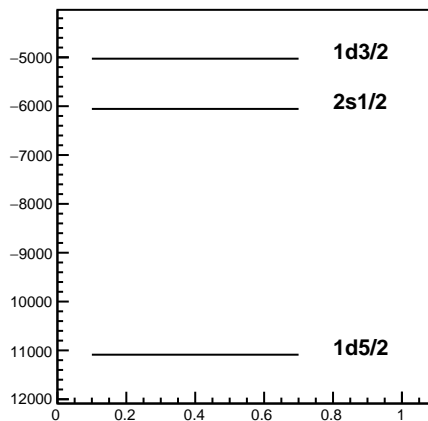
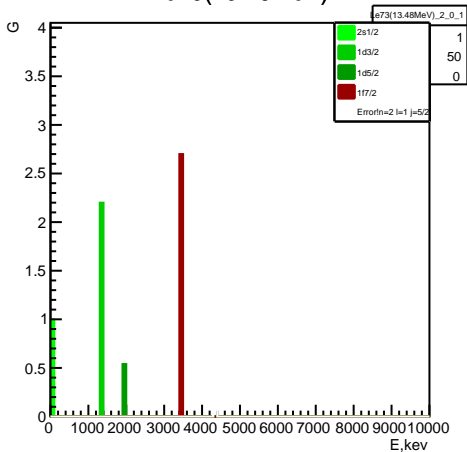
Wi68_ver3_ver1



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver3_ver1 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

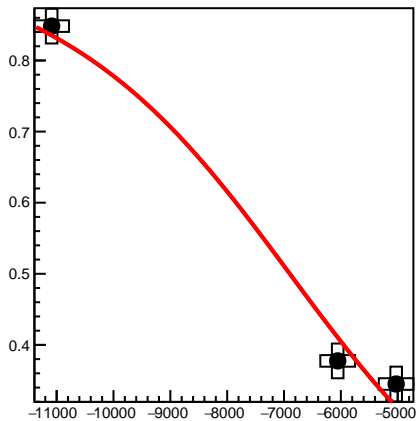
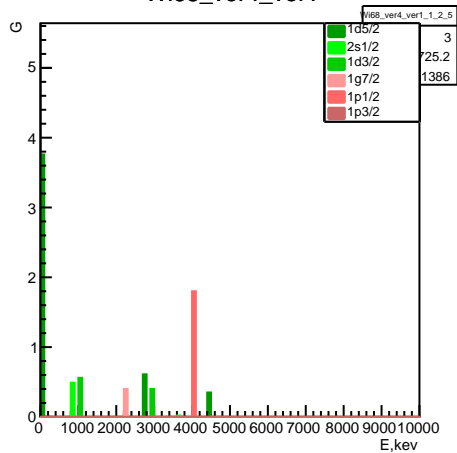
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

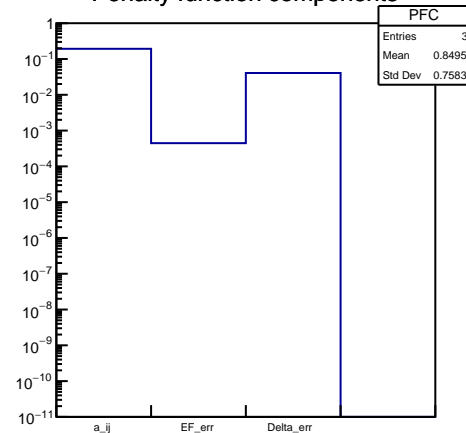
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

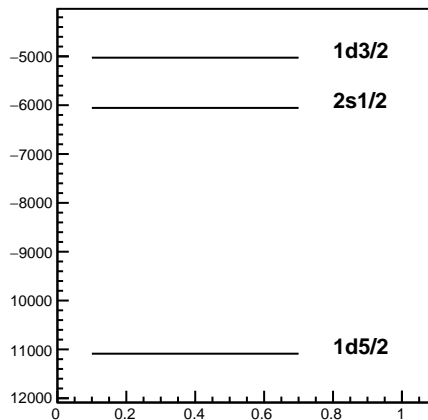
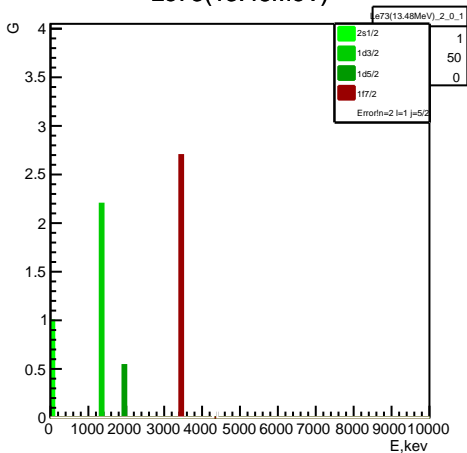
Wi68_ver4_ver1



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver4_ver1 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

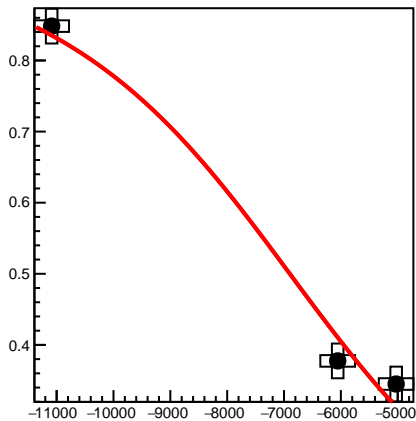
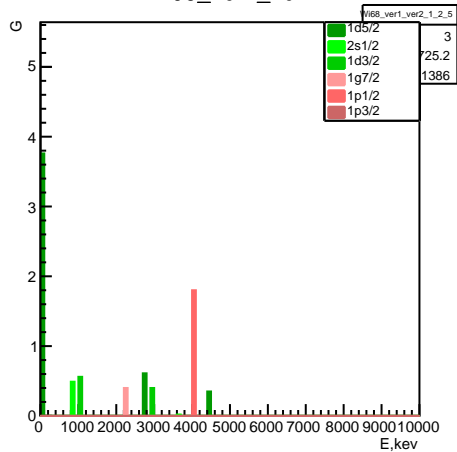
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

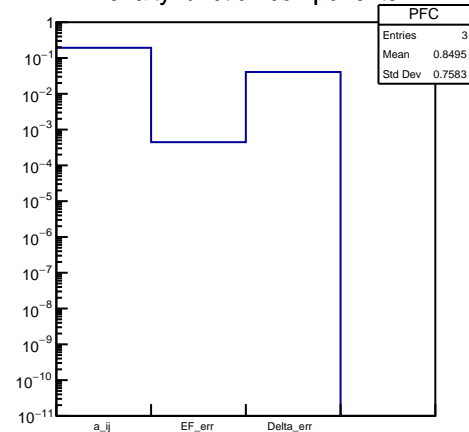
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

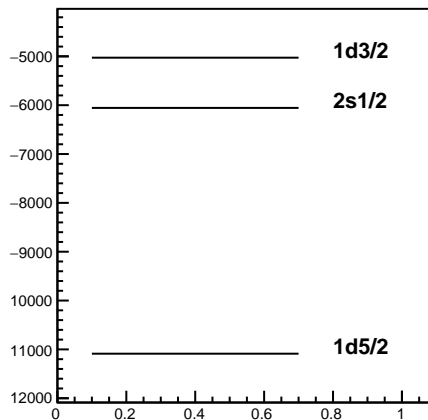
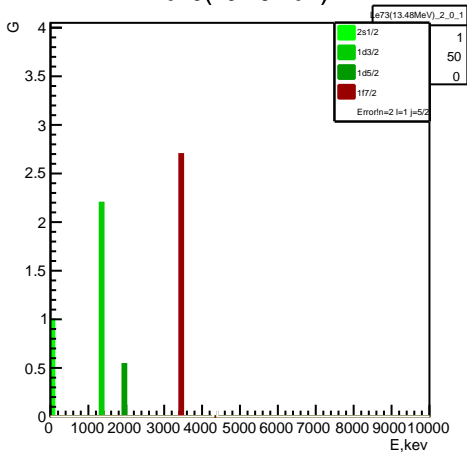
Wi68_ver1_ver2



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver1_ver2 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

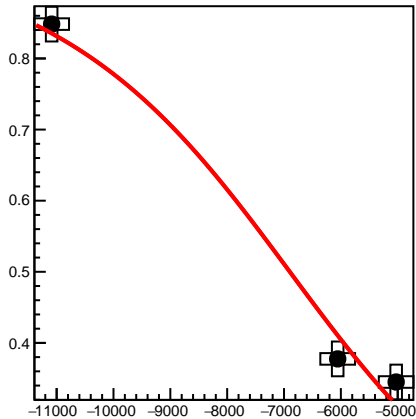
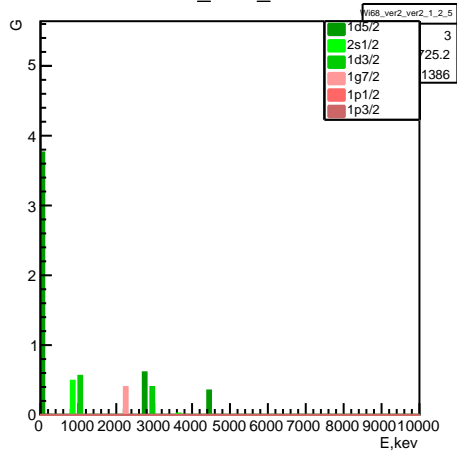
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

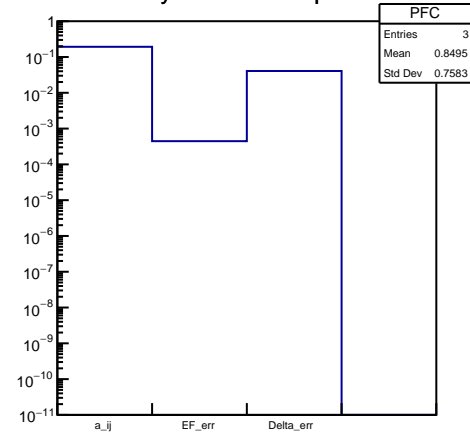
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

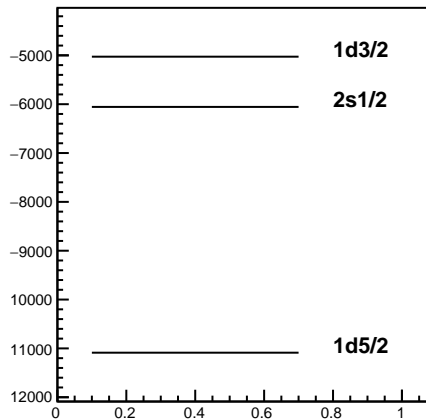
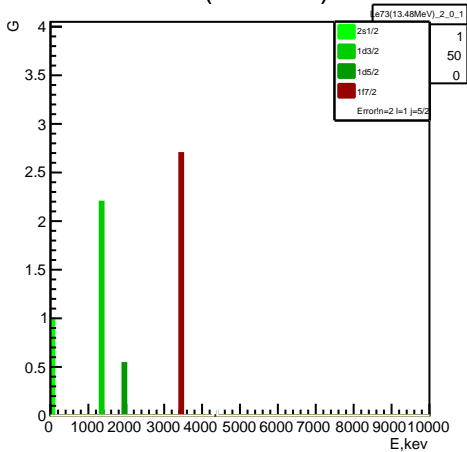
Wi68_ver2_ver2



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver2_ver2 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

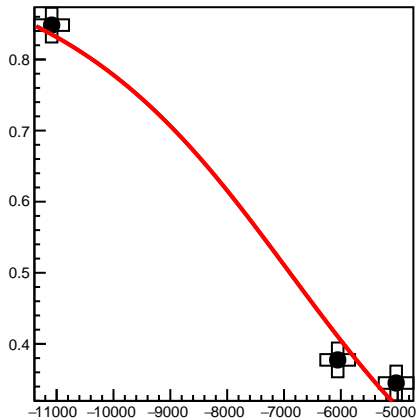
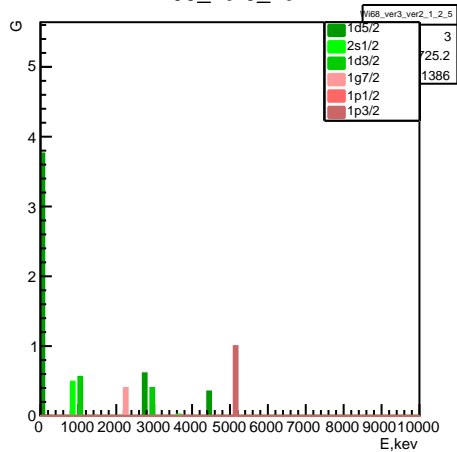
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

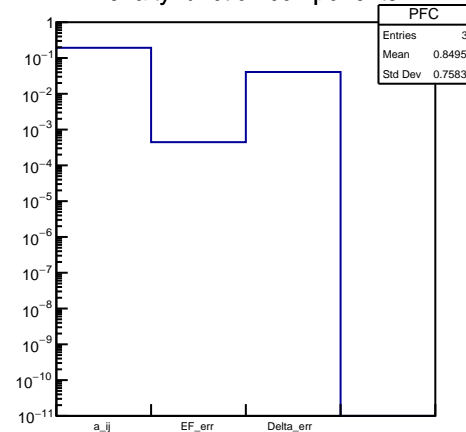
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

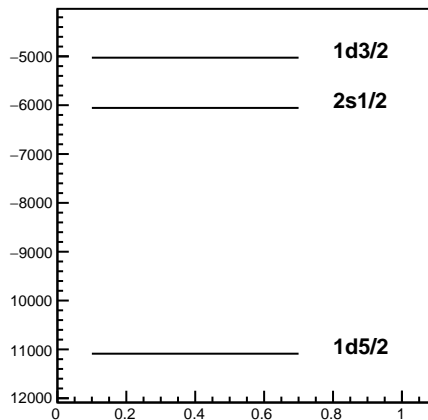
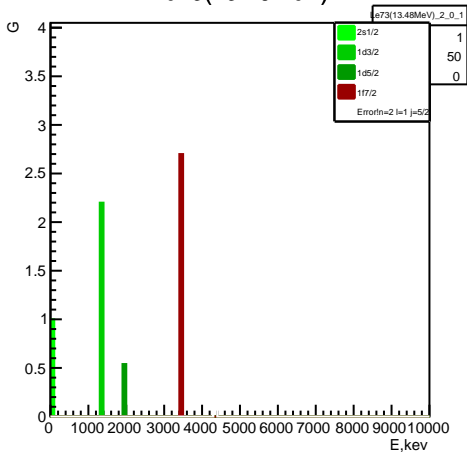
Wi68_ver3_ver2



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver3_ver2 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

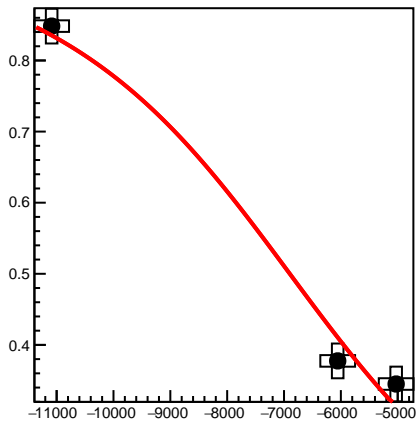
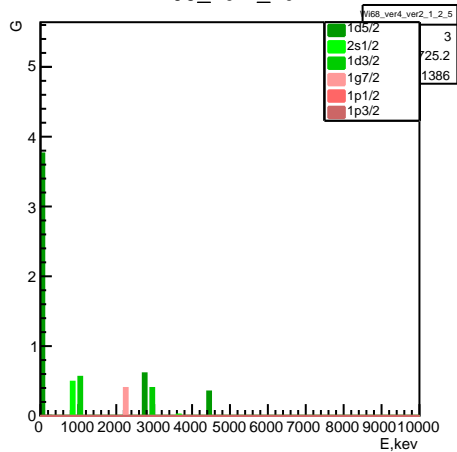
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

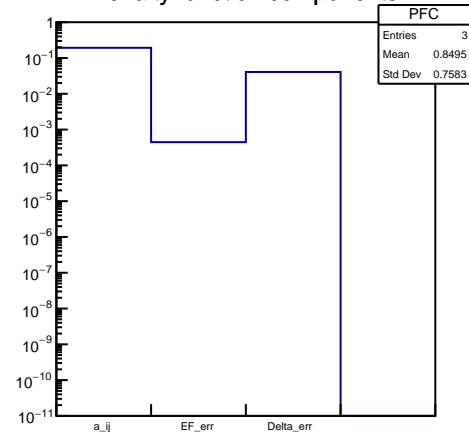
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

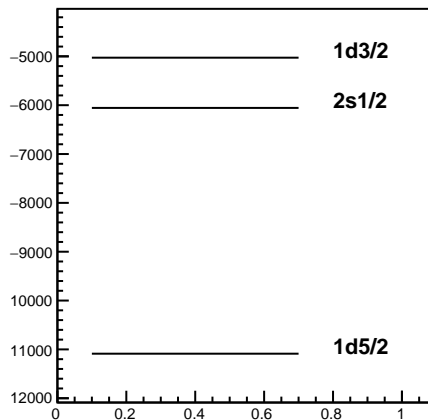
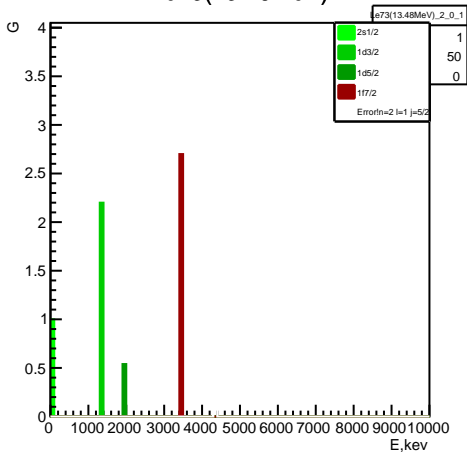
Wi68_ver4_ver2



Penalty function components



Le73(13.48MeV)



Experiment: Wi68_ver4_ver2 (10) Le73(13.48

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6898.17 \pm 363.395 \text{ keV}$ $\Delta: 4633.64 \pm 905.684 \text{ keV}$

penalty: 0.0779575

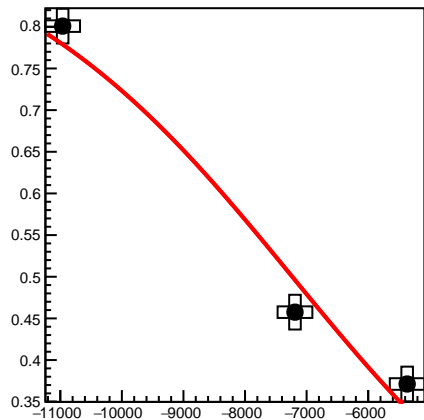
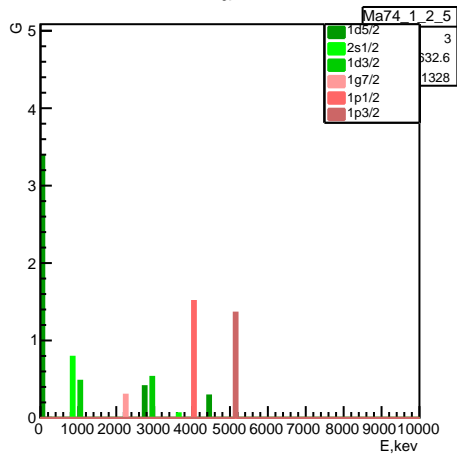
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11087.9 1d5/2 0.848333 0.876667

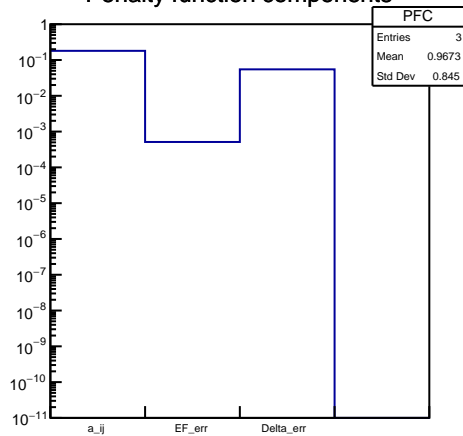
-6055.79 2s1/2 0.3775 0.755

-5027.27 1d3/2 0.345 0.79

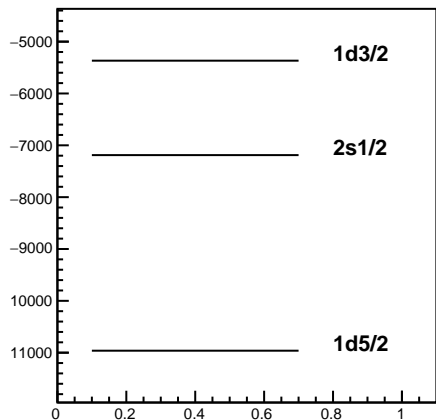
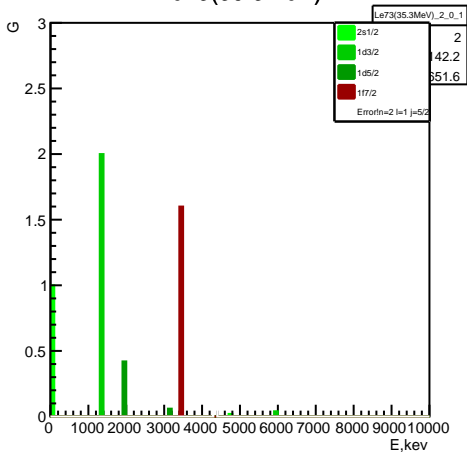
Ma74



Penalty function components



Le73(35.3MeV)



Experiment: Ma74 (10) Le73(35.3MeV) (8)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7232.48 \pm 418.548 \text{ keV}$ $\Delta: 5549.58 \pm 1220.55 \text{ keV}$

penalty: 0.078524

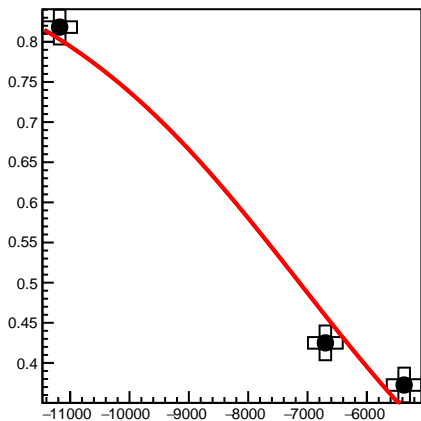
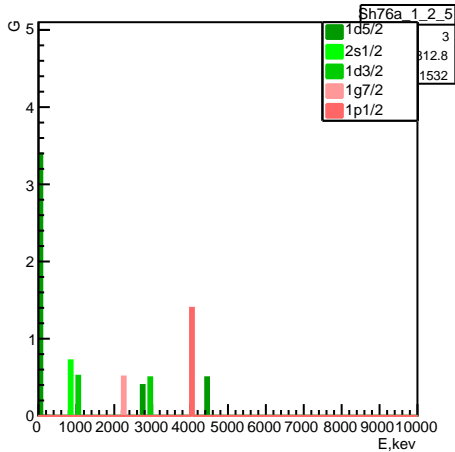
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10961.8 1d5/2 0.800833 0.761667

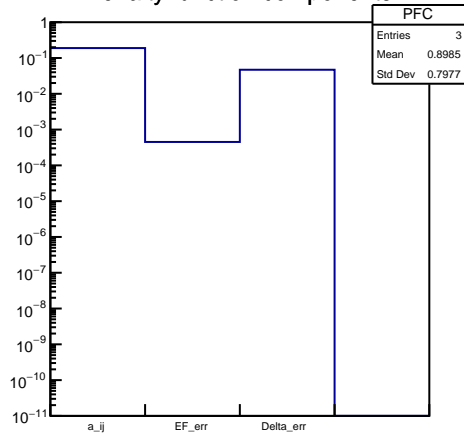
-7188.92 2s1/2 0.4575 0.935

-5367.25 1d3/2 0.37125 0.7625

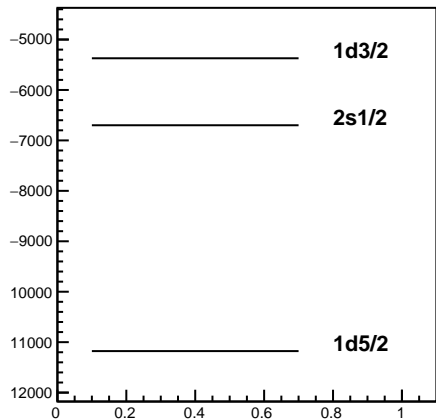
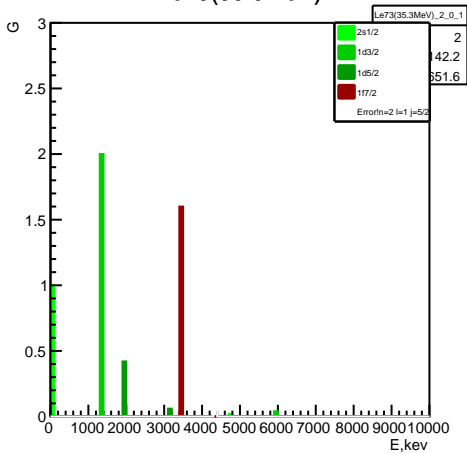
Sh76a



Penalty function components



Le73(35.3MeV)



Experiment: Sh76a (8) Le73(35.3MeV) (8)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7136.19 \pm 368.427 \text{ keV}$ $\Delta: 5302.89 \pm 1046.39 \text{ keV}$

penalty: 0.0789535

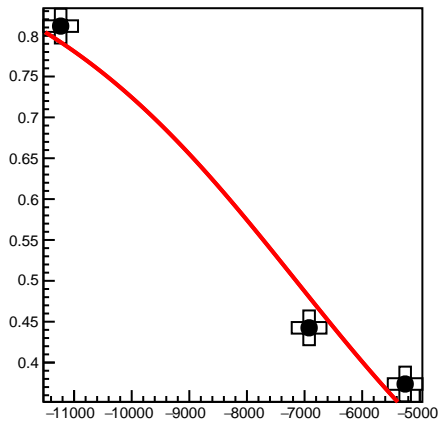
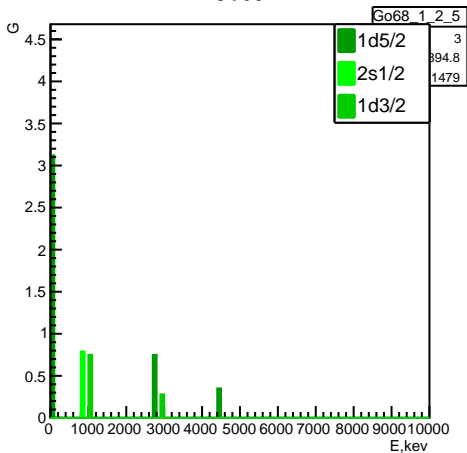
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11177.2 1d5/2 0.818333 0.796667

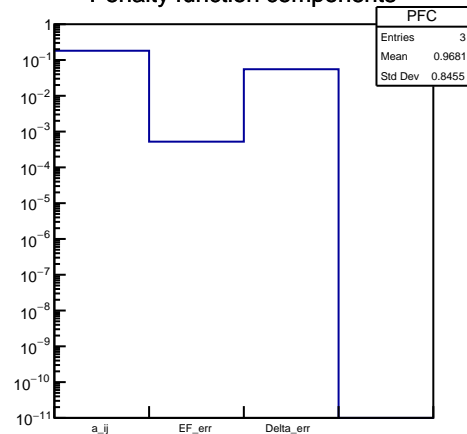
-6699.62 2s1/2 0.425 0.87

-5371.59 1d3/2 0.3725 0.765

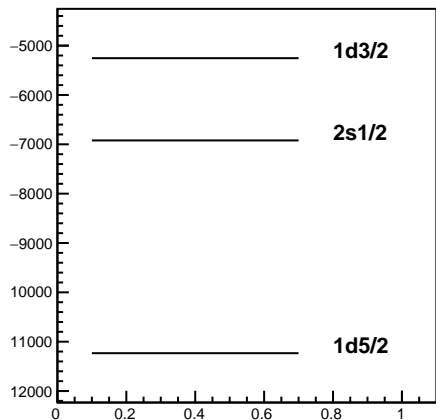
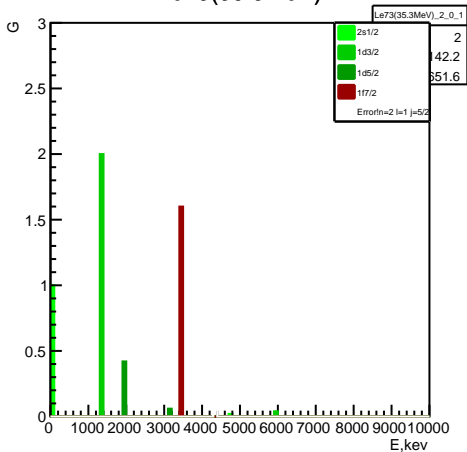
Go68



Penalty function components



Le73(35.3MeV)



Experiment: Go68 (6) Le73(35.3MeV) (8)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7146.27 \pm 426.907 \text{ keV}$ $\Delta: 5679.37 \pm 1230.85 \text{ keV}$

penalty: 0.0790519

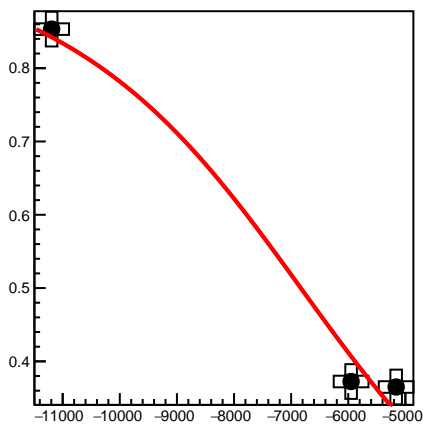
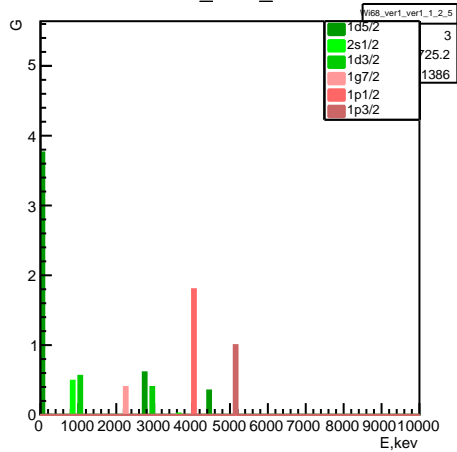
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11233.2 1d5/2 0.811667 0.783333

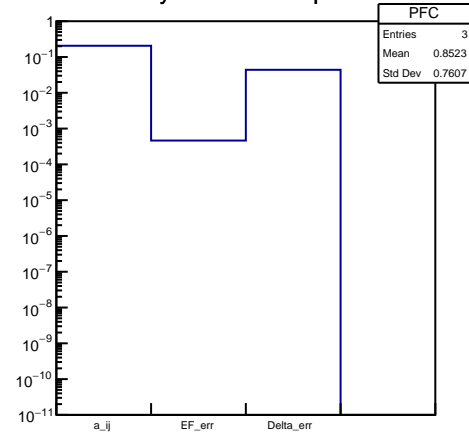
-6921.19 2s1/2 0.4425 0.905

-5254.15 1d3/2 0.37375 0.7675

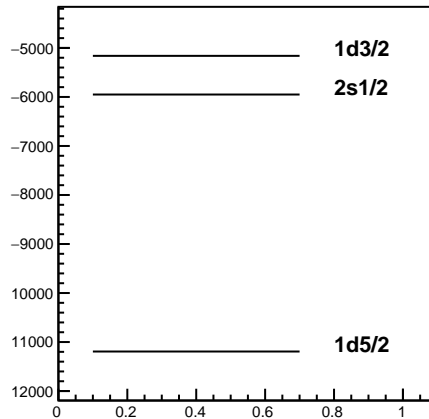
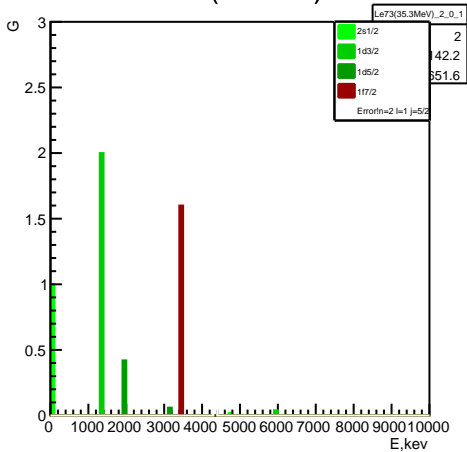
Wi68_ver1_ver1



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver1_ver1 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097 \text{ keV}$ $\Delta: 4644.9 \pm 977.769 \text{ keV}$

penalty: 0.0834864

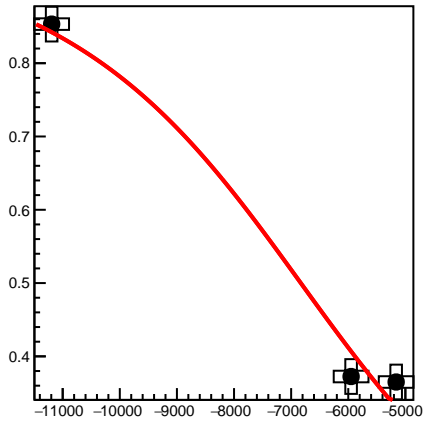
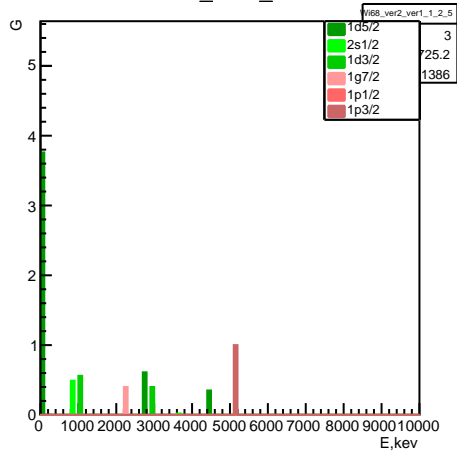
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

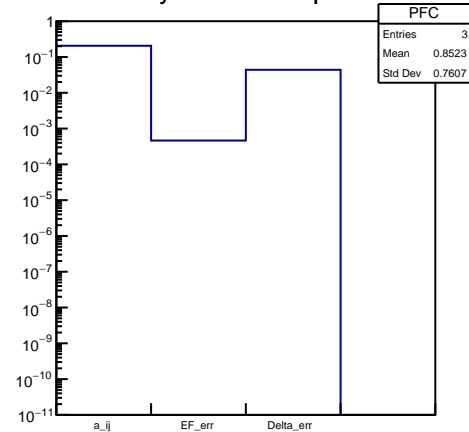
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

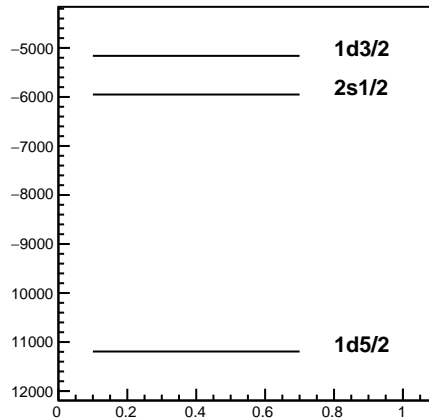
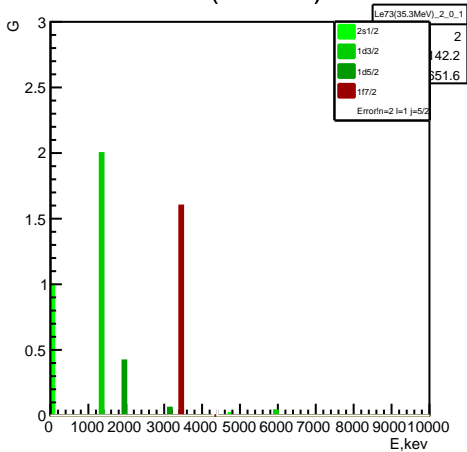
Wi68_ver2_ver1



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver2_ver1 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097 \text{ keV}$ $\Delta: 4644.9 \pm 977.769 \text{ keV}$

penalty: 0.0834864

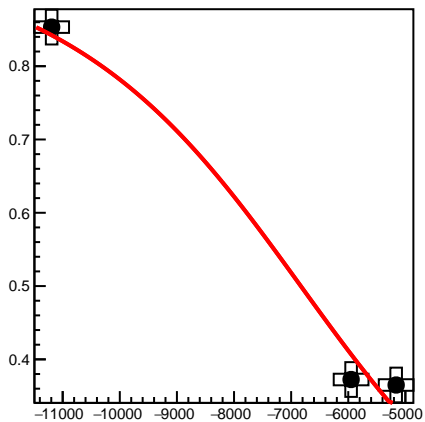
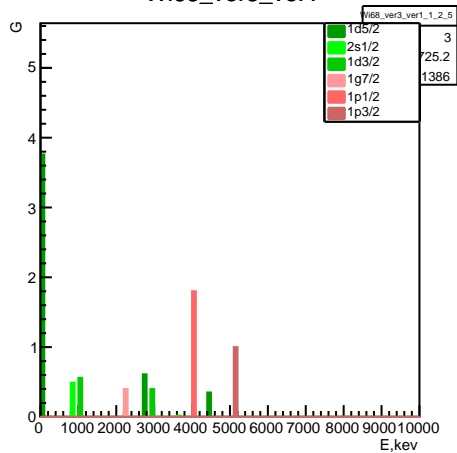
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

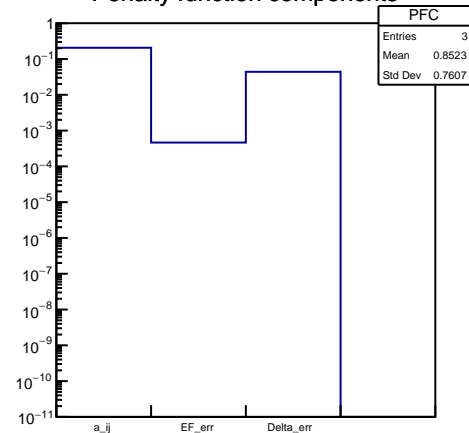
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

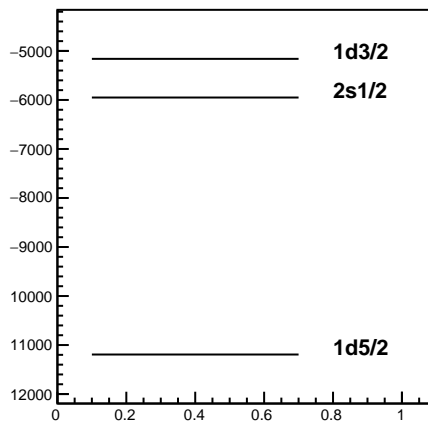
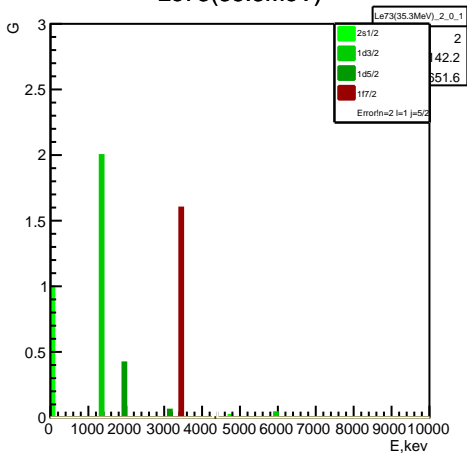
Wi68_ver3_ver1



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver3_ver1 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097 \text{ keV}$ $\Delta: 4644.9 \pm 977.769 \text{ keV}$

penalty: 0.0834864

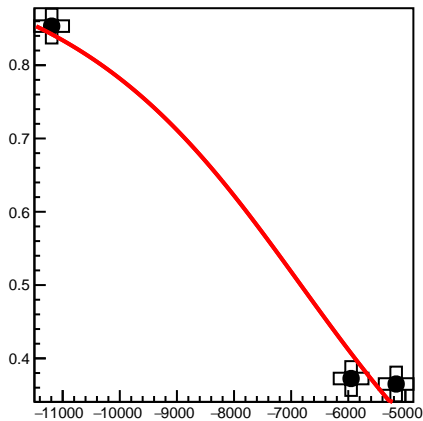
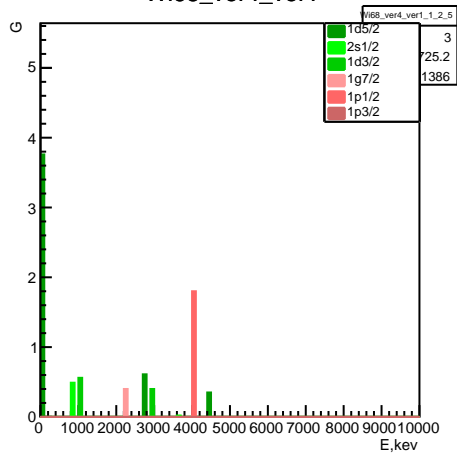
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

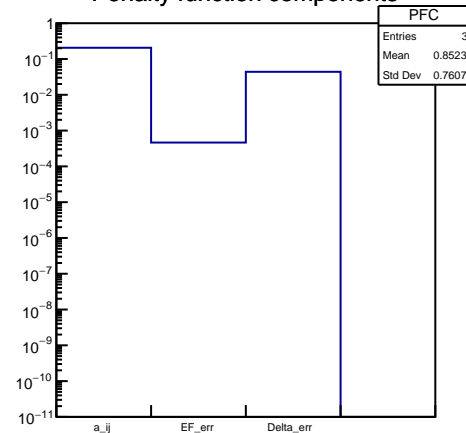
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

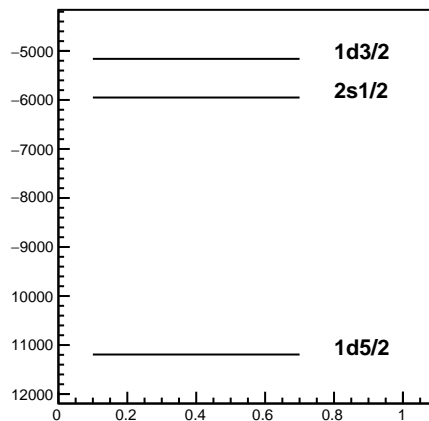
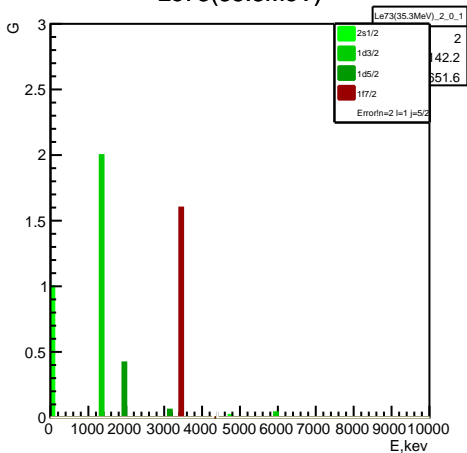
Wi68_ver4_ver1



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver4_ver1 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097$ keV $\Delta: 4644.9 \pm 977.769$ keV

penalty: 0.0834864

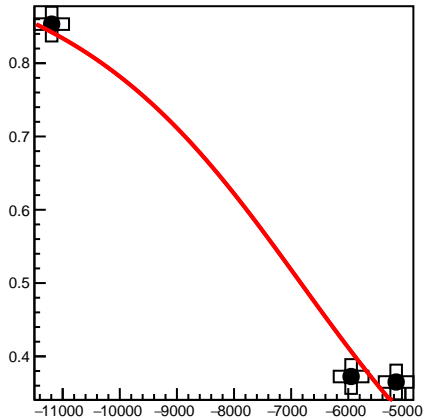
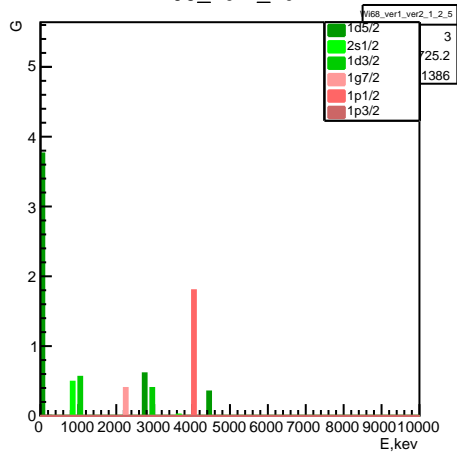
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

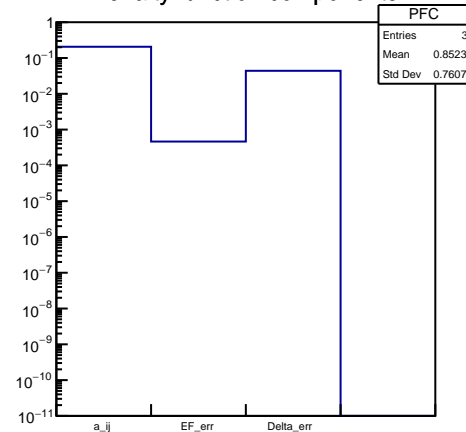
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

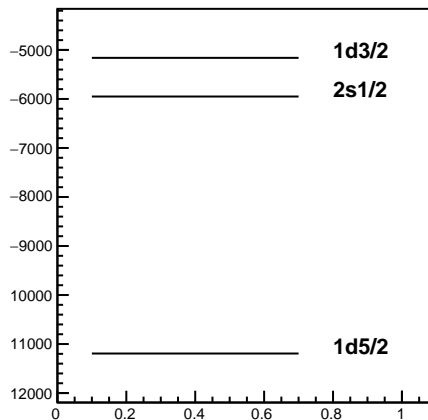
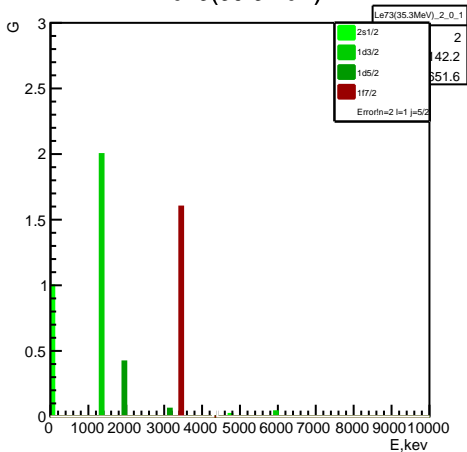
Wi68_ver1_ver2



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver1_ver2 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097 \text{ keV}$ $\Delta: 4644.9 \pm 977.769 \text{ keV}$

penalty: 0.0834864

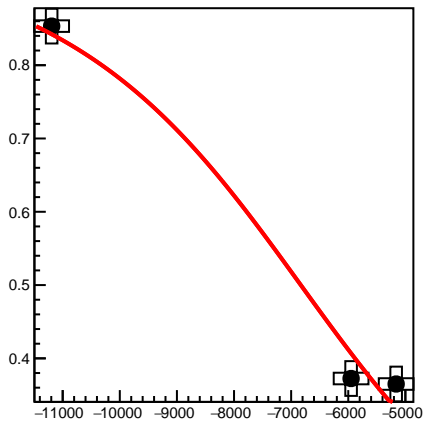
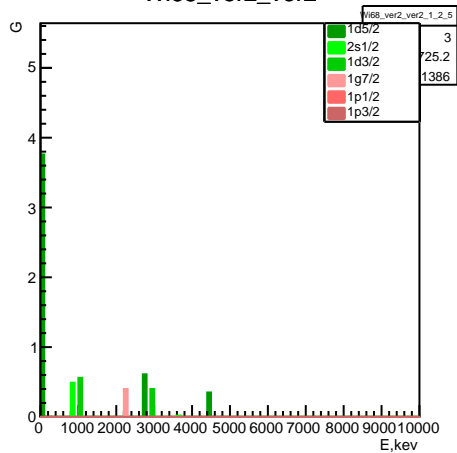
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

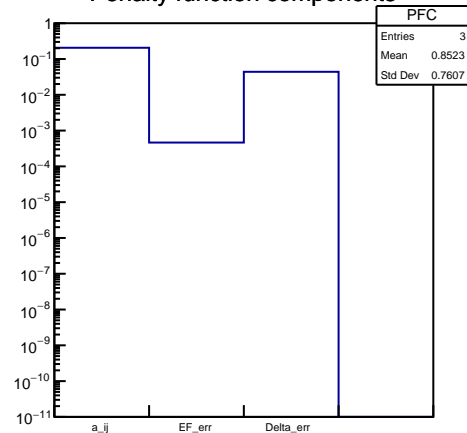
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

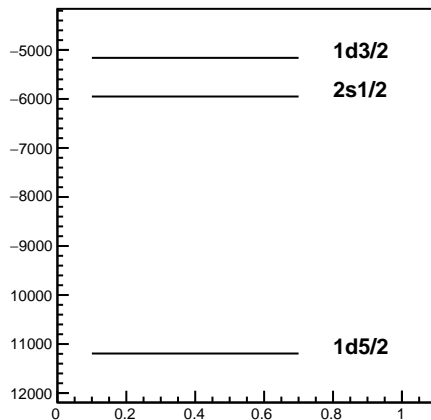
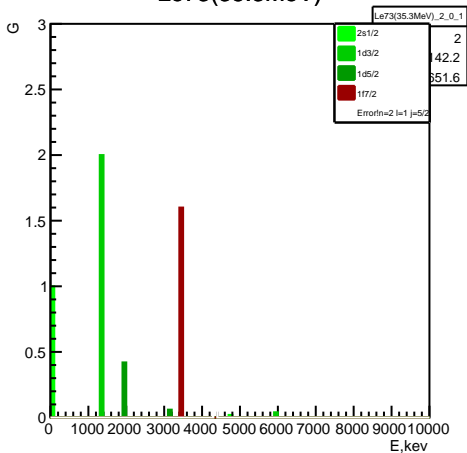
Wi68_ver2_ver2



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver2_ver2 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -6830.68 \pm 378.097 keV

Δ : 4644.9 \pm 977.769 keV

penalty: 0.0834864

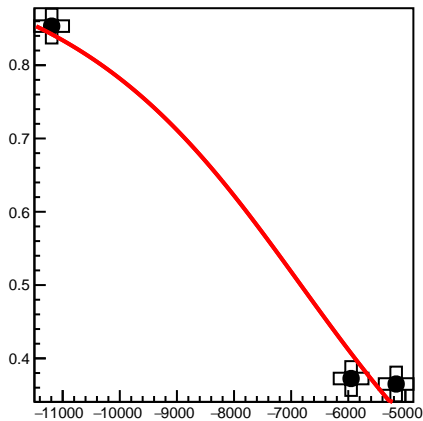
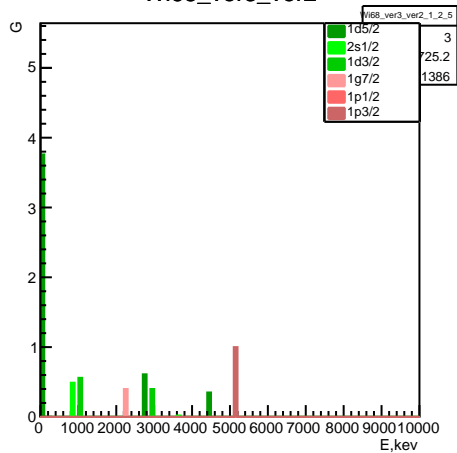
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

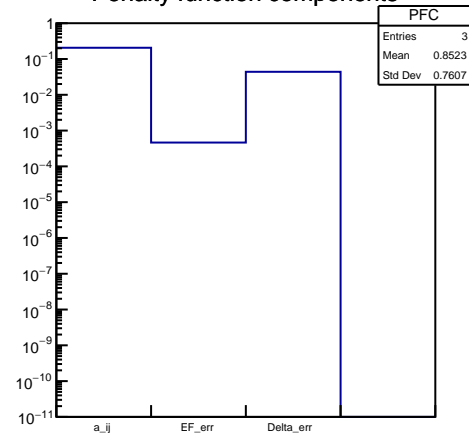
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

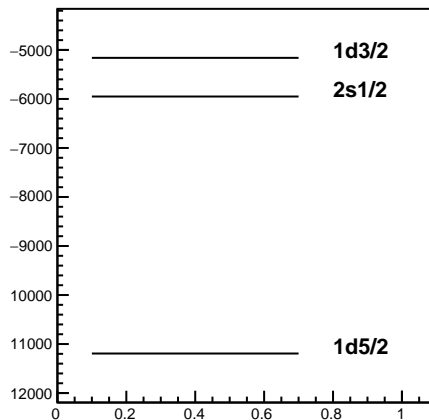
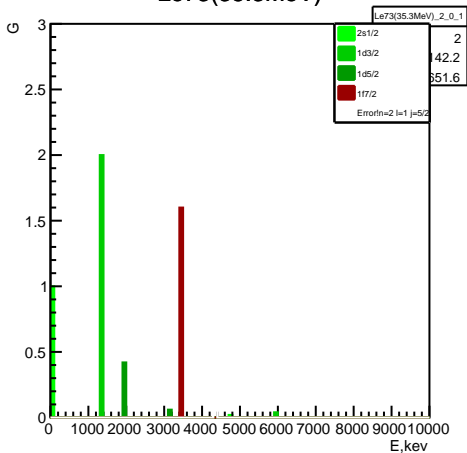
Wi68_ver3_ver2



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver3_ver2 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -6830.68 \pm 378.097 keV

Δ : 4644.9 \pm 977.769 keV

penalty: 0.0834864

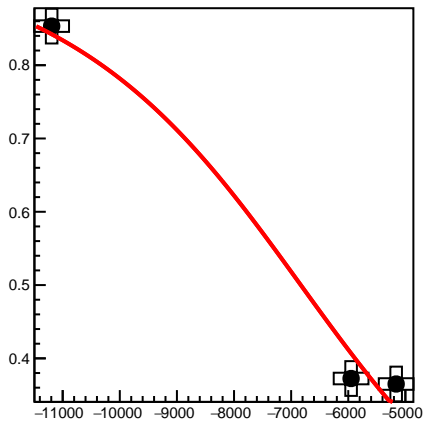
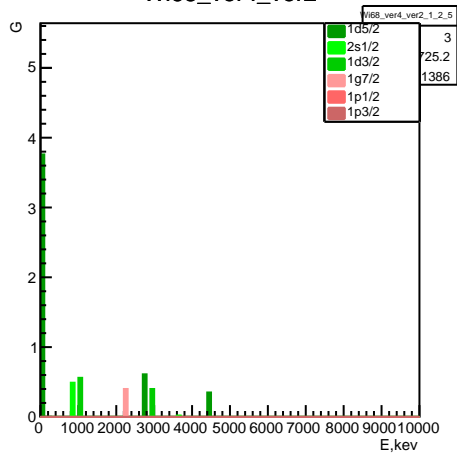
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

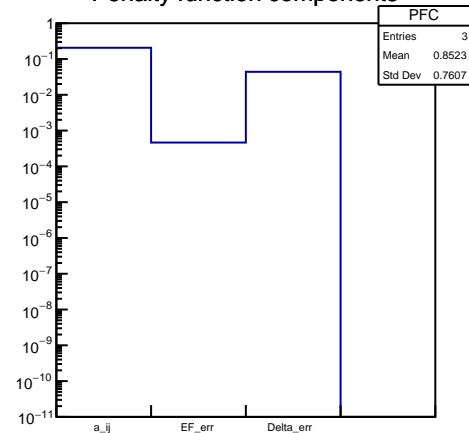
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

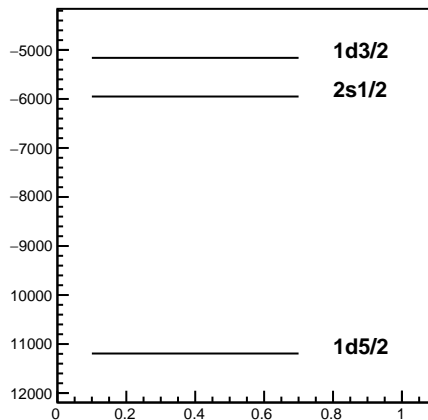
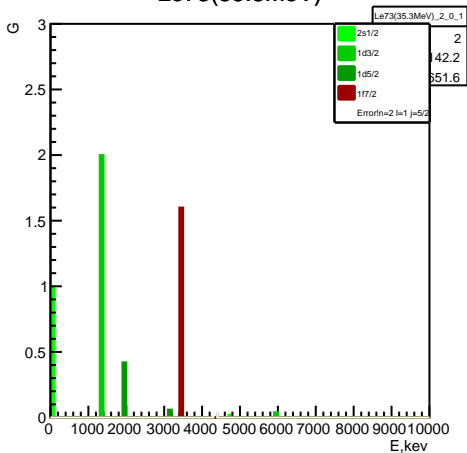
Wi68_ver4_ver2



Penalty function components



Le73(35.3MeV)



Experiment: Wi68_ver4_ver2 (10) Le73(35.3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6830.68 \pm 378.097 \text{ keV}$ $\Delta: 4644.9 \pm 977.769 \text{ keV}$

penalty: 0.0834864

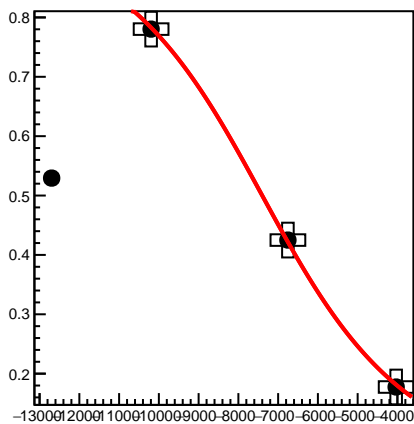
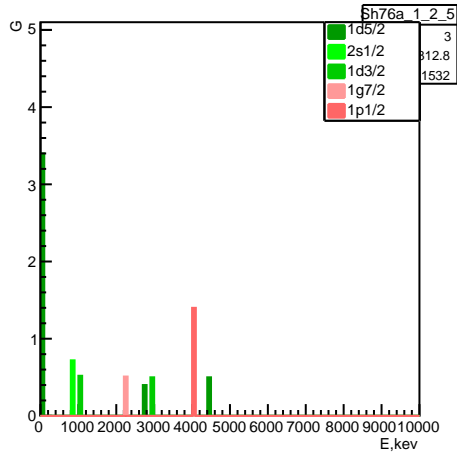
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11193.4 1d5/2 0.853333 0.866667

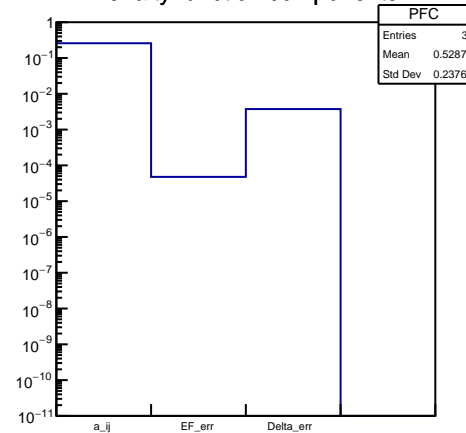
-5950.35 2s1/2 0.3725 0.765

-5161.45 1d3/2 0.365 0.75

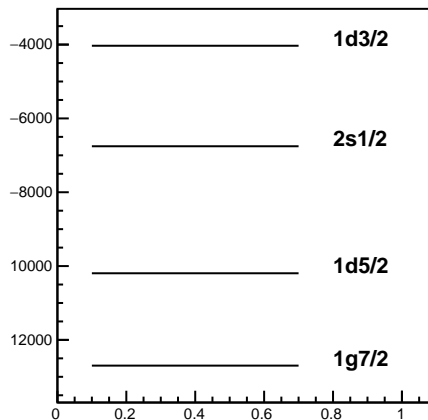
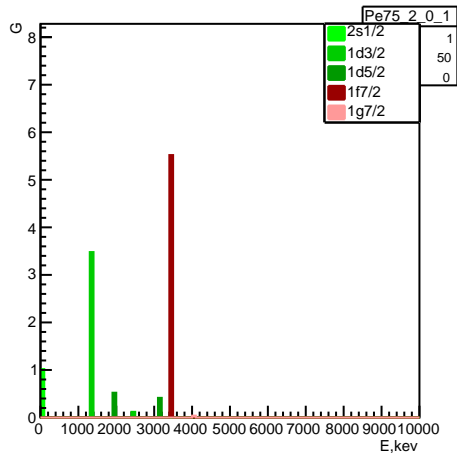
Sh76a



Penalty function components



Pe75



Experiment: Sh76a (8) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7400.33 \pm 38.941 keV Δ : 4074.12 \pm 83.403 keV

penalty: 0.0873956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

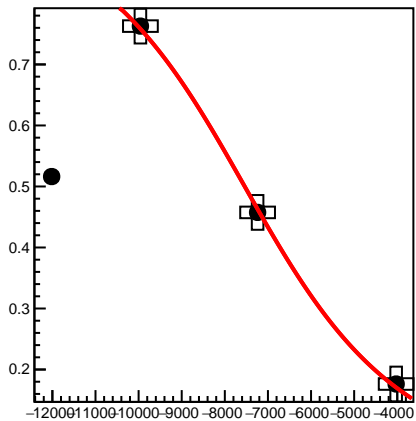
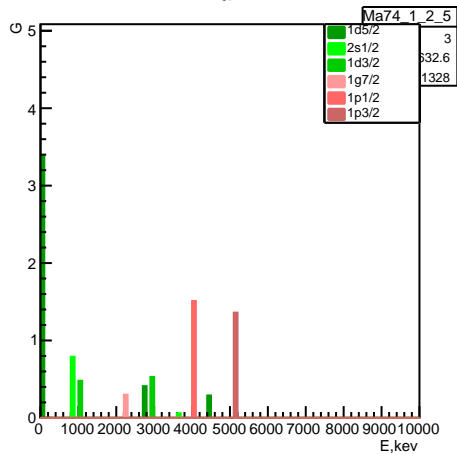
-10195.1 1d5/2 0.780333 0.872667

-6754.32 2s1/2 0.425 0.87

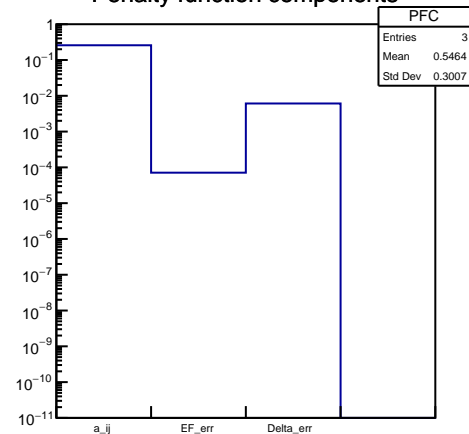
-4031.52 1d3/2 0.1775 1.155

-12696.7 1g7/2 0.529375 0.06875

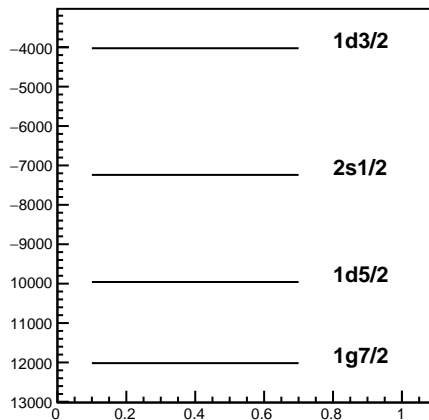
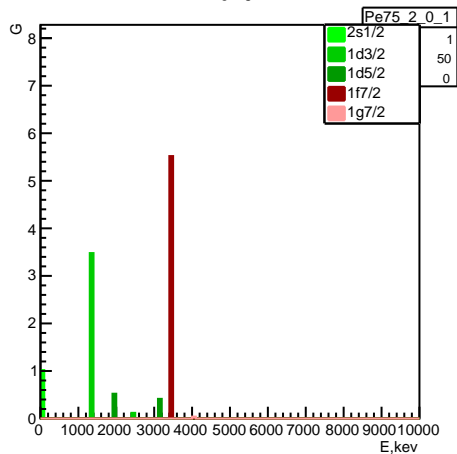
Ma74



Penalty function components



Pe75



Experiment: Ma74 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7538.75 \pm 58.0493 \text{ keV}$ $\Delta: 4010.77 \pm 135.845 \text{ keV}$

penalty: 0.0880839

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

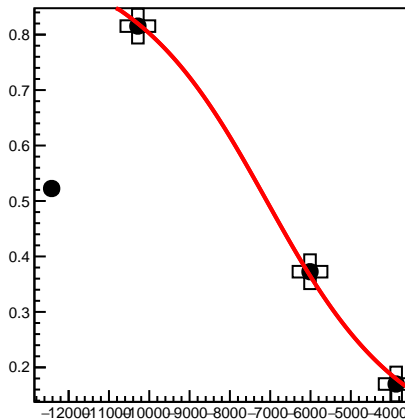
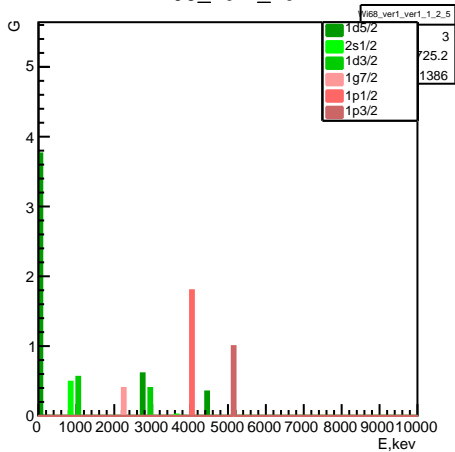
-9958.22 1d5/2 0.762833 0.837667

-7239.81 2s1/2 0.4575 0.935

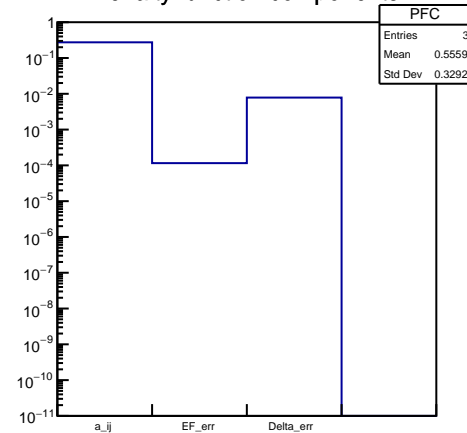
-4025.73 1d3/2 0.17625 1.1525

-12017.2 1g7/2 0.51625 0.0425

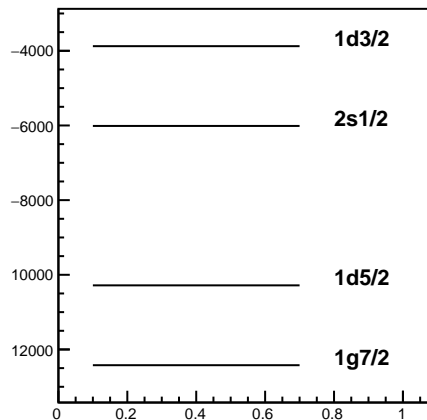
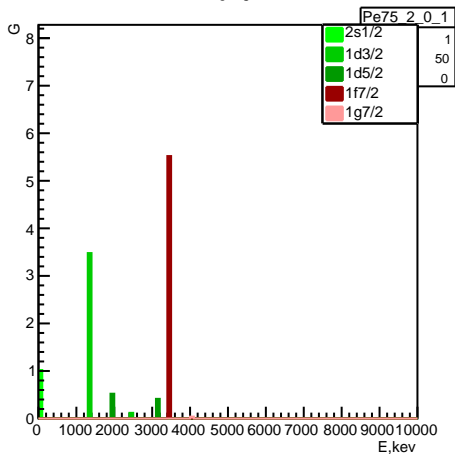
Wi68_ver1_ver1



Penalty function components



Pe75



Experiment: Wi68_ver1_ver1 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

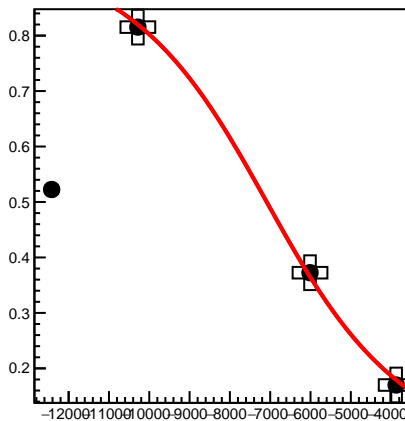
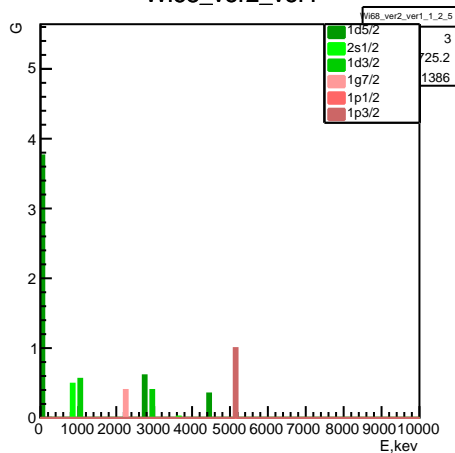
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

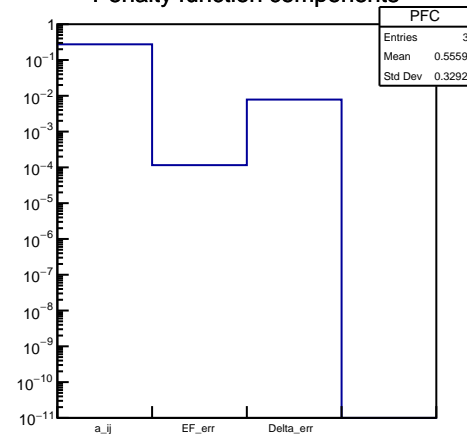
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

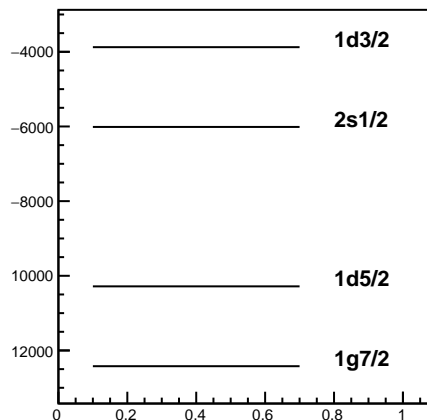
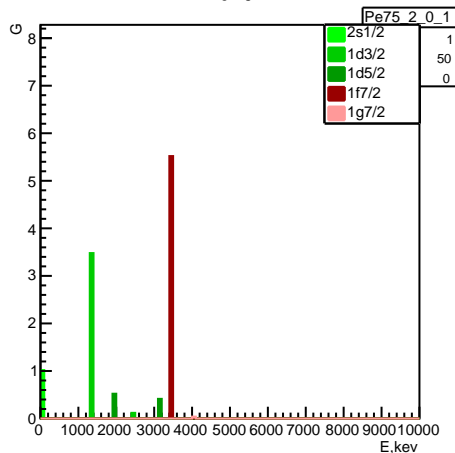
Wi68_ver2_ver1



Penalty function components



Pe75



Experiment: Wi68_ver2_ver1 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7085.4 \pm 94.3012 \text{ keV}$ $\Delta: -3839.67 \pm 174.628 \text{ keV}$

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

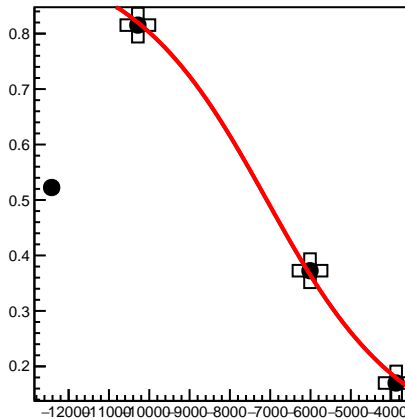
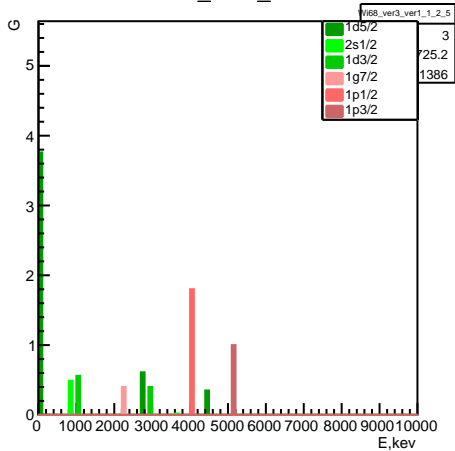
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

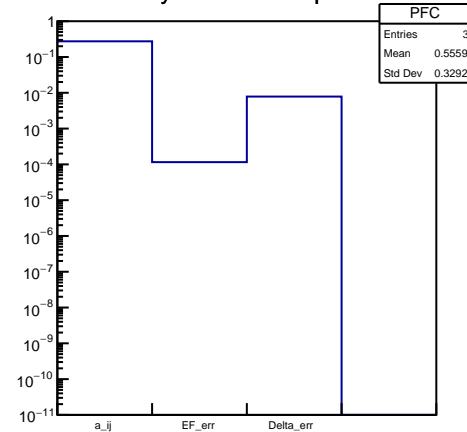
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

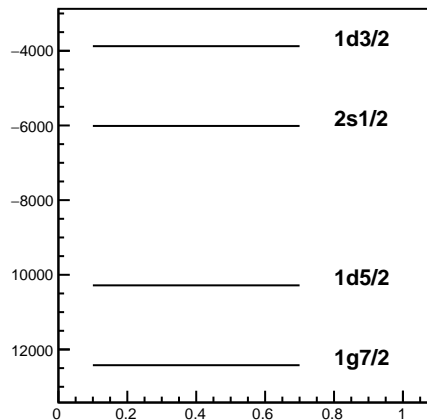
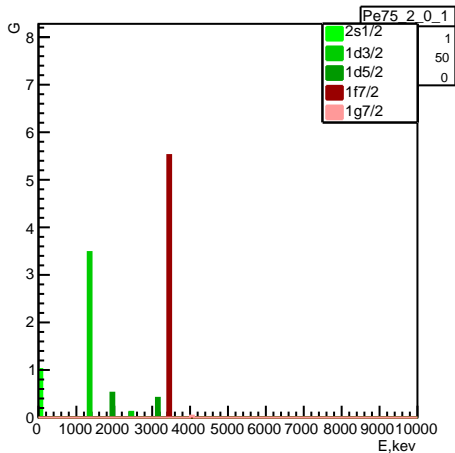
Wi68_ver3_ver1



Penalty function components



Pe75



Experiment: Wi68_ver3_ver1 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

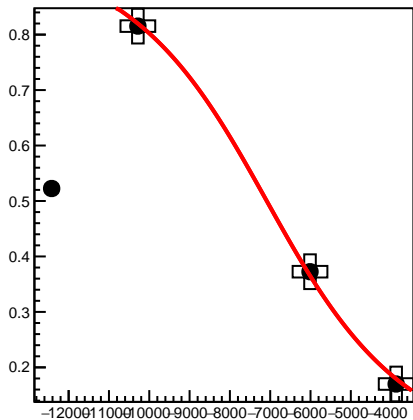
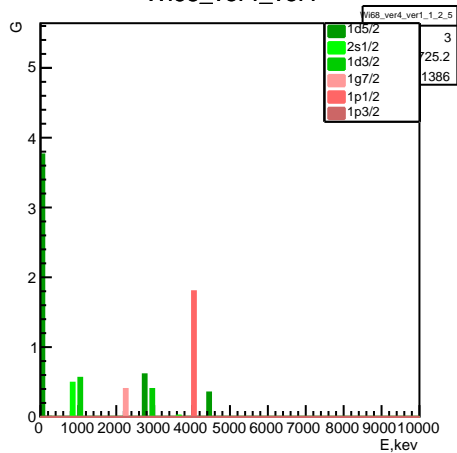
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

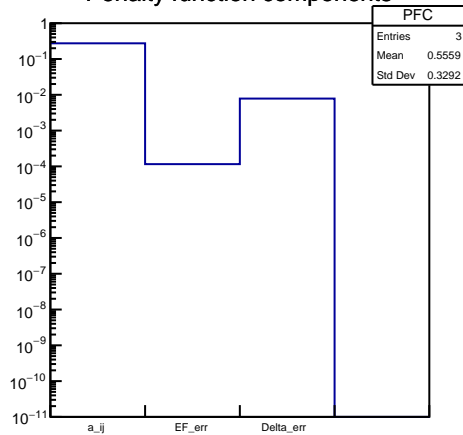
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

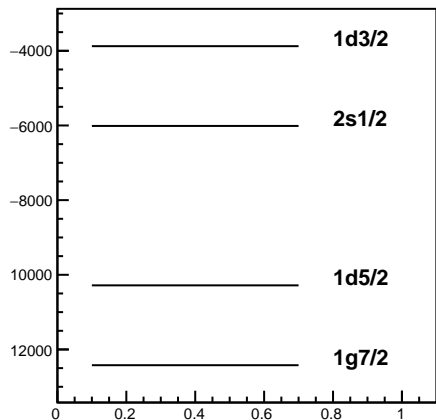
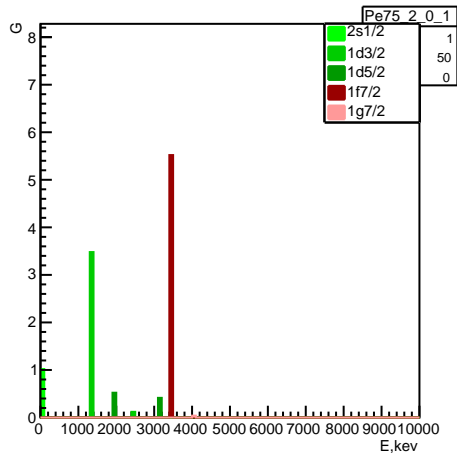
Wi68_ver4_ver1



Penalty function components



Pe75



Experiment: Wi68_ver4_ver1 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

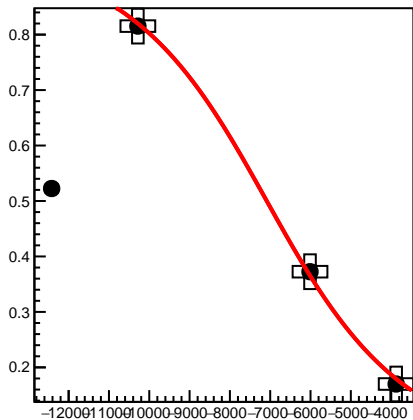
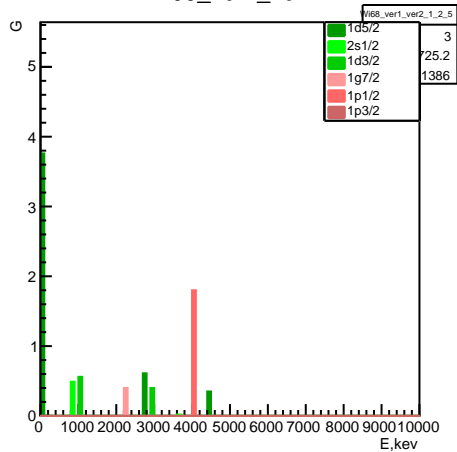
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

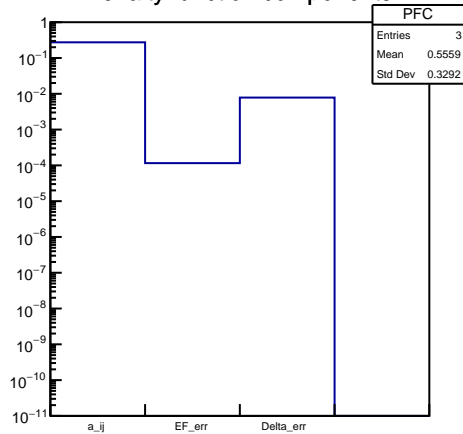
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

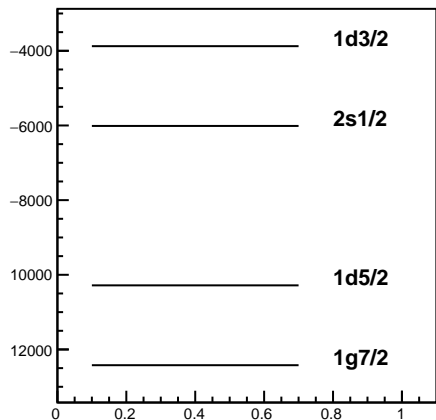
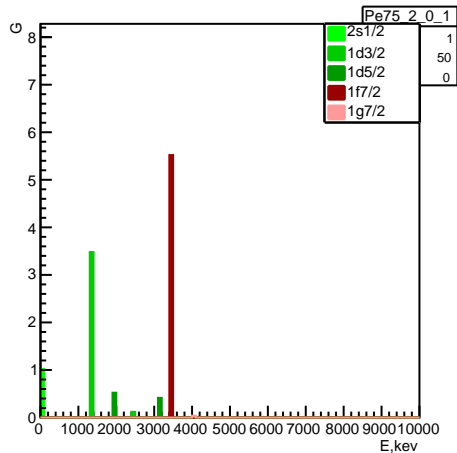
Wi68_ver1_ver2



Penalty function components



Pe75



Experiment: Wi68_ver1_ver2 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

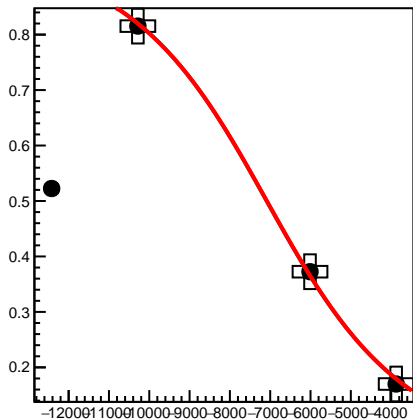
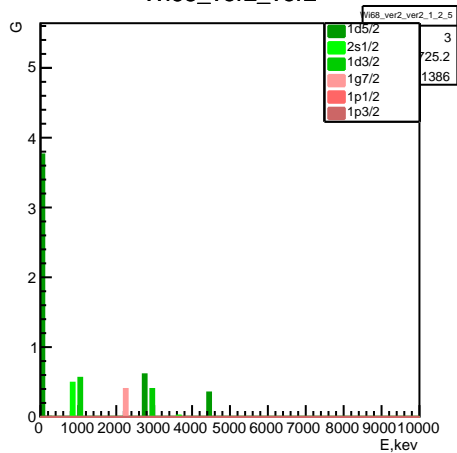
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

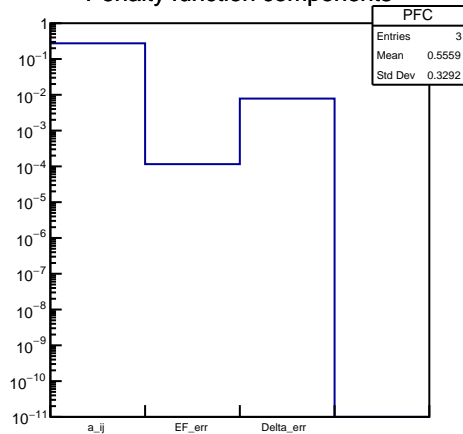
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

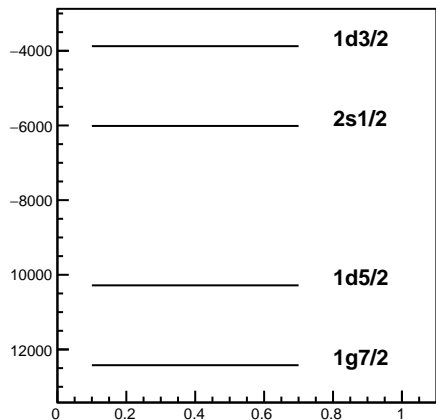
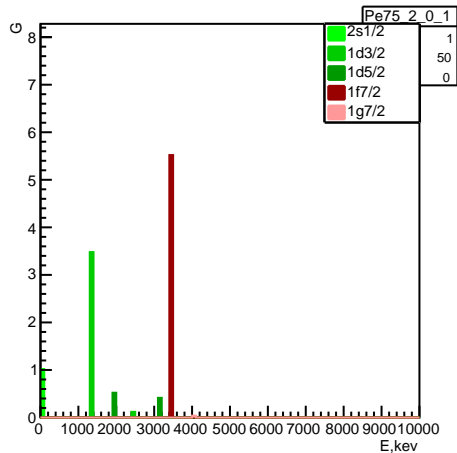
Wi68_ver2_ver2



Penalty function components



Pe75



Experiment: Wi68_ver2_ver2 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

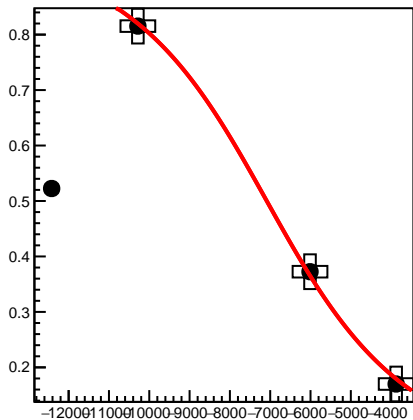
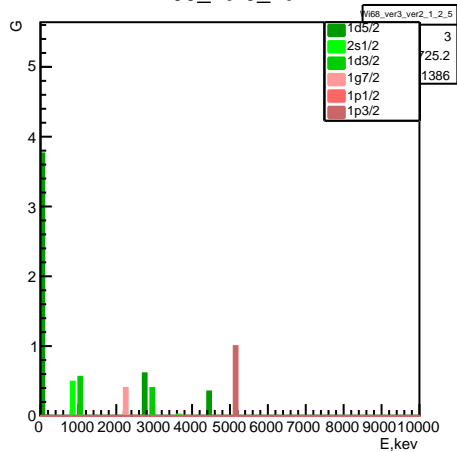
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

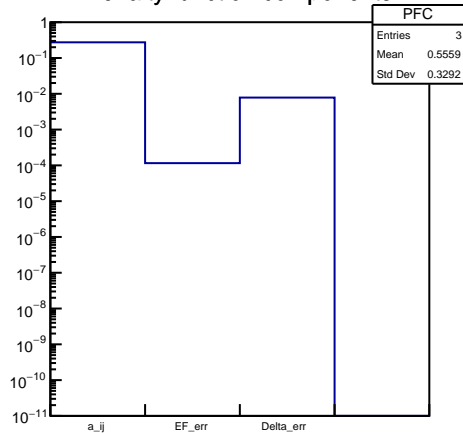
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

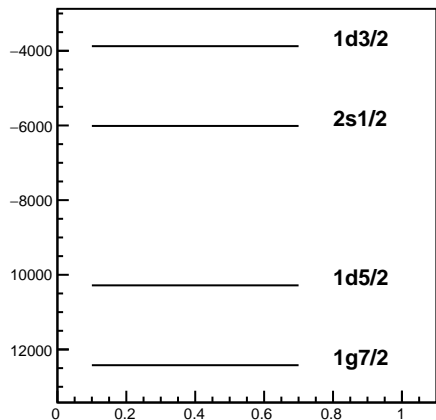
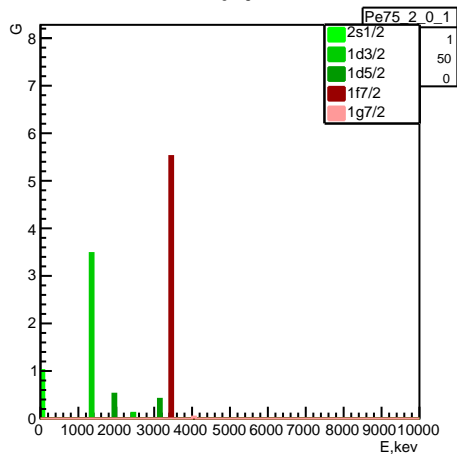
Wi68_ver3_ver2



Penalty function components



Pe75



Experiment: Wi68_ver3_ver2 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

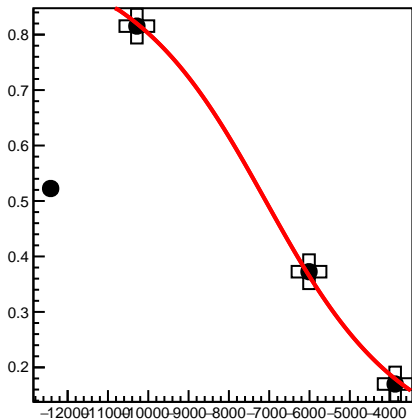
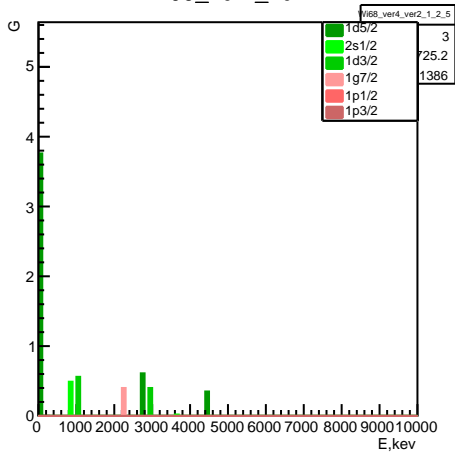
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

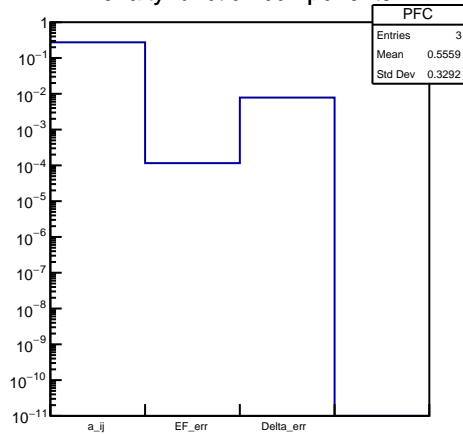
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

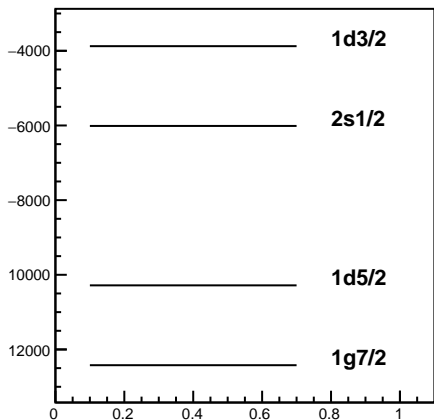
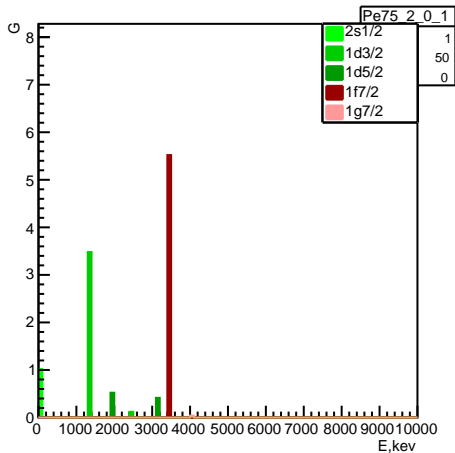
Wi68_ver4_ver2



Penalty function components



Pe75



Experiment: Wi68_ver4_ver2 (10) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -7085.4 \pm 94.3012 keV Δ : -3839.67 \pm 174.628 keV

penalty: 0.0940956

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

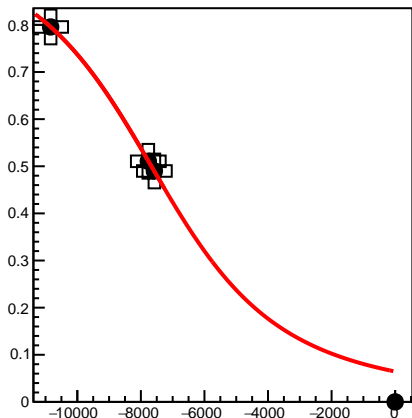
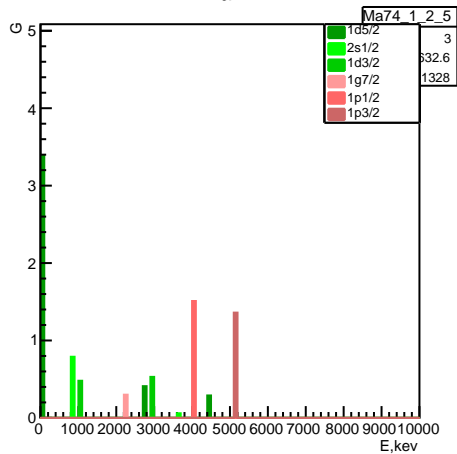
-10282.9 1d5/2 0.815333 0.942667

-6012.56 2s1/2 0.3725 0.765

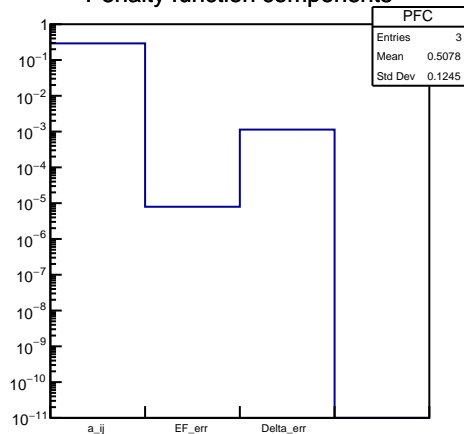
-3875.63 1d3/2 0.17 1.14

-12421.7 1g7/2 0.5225 0.055

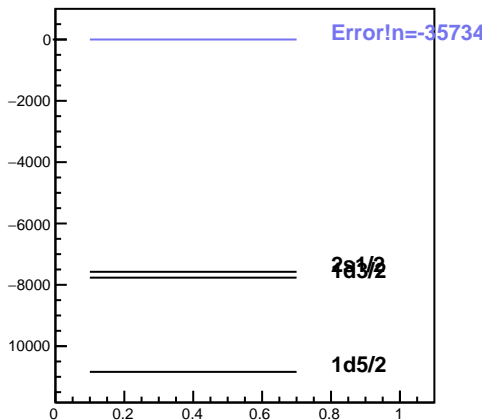
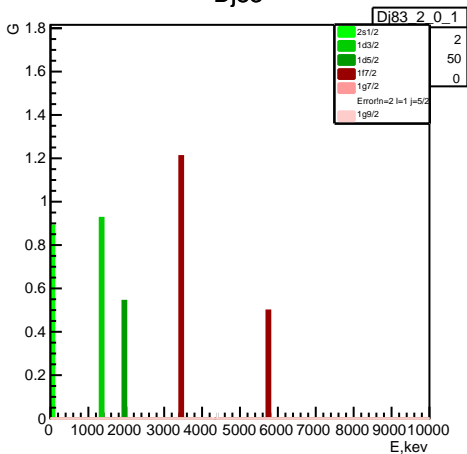
Ma74



Penalty function components



Dj83



Experiment: Ma74 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7668.38 \pm 6.4807 keV Δ : 4324.42 \pm 25.3053 keV

penalty: 0.0974868

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

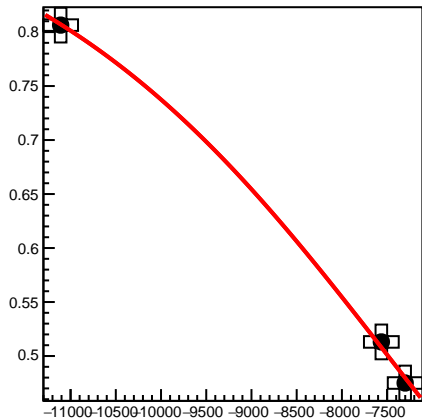
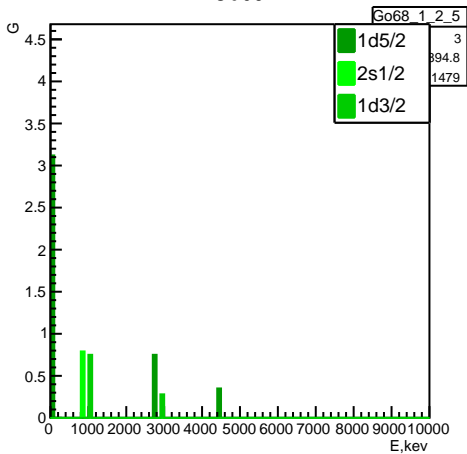
-10838.7 1d5/2 0.795592 0.77215

-7575.35 2s1/2 0.49 0.87

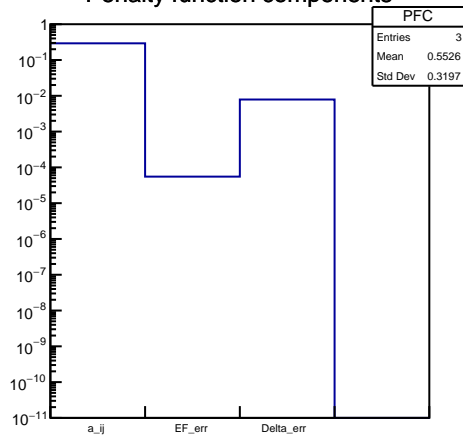
-7766.07 1d3/2 0.51055 0.4839

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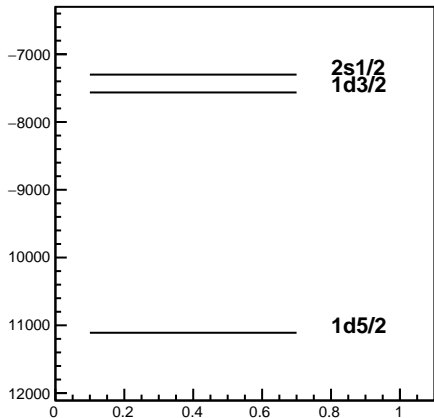
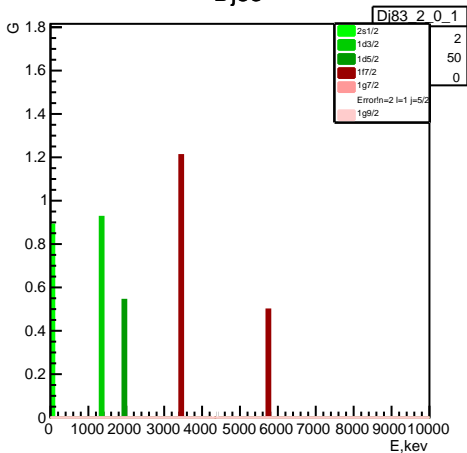
Go68



Penalty function components



Dj83



Experiment: Go68 (6) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7489.58 \pm 45.029 \text{ keV}$ $\Delta: -4650.58 \pm 175.285 \text{ keV}$

penalty: 0.100117

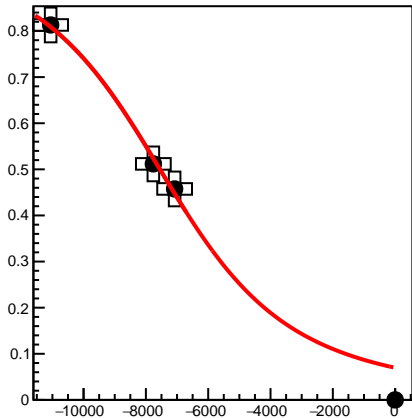
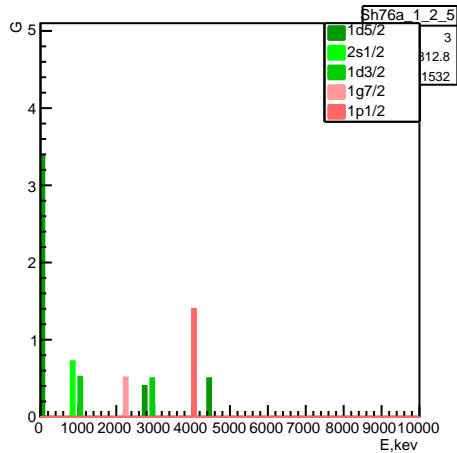
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11109.8 1d5/2 0.806425 0.793817

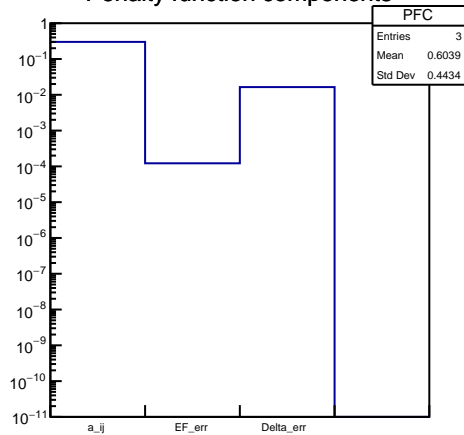
-7300.7 2s1/2 0.475 0.84

-7563.99 1d3/2 0.51305 0.4889

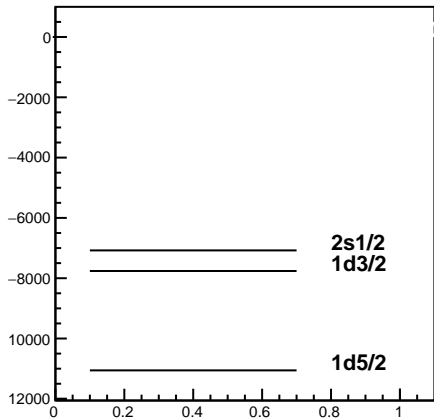
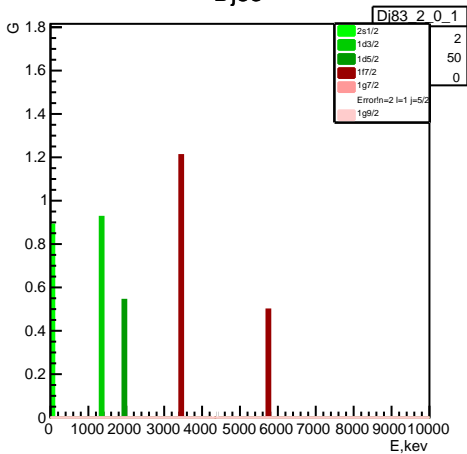
Sh76a



Penalty function components



Dj83



Experiment: Sh76a (8) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7549 \pm 99.501$ keV $\Delta: 4465.26 \pm 365.596$ keV

penalty: 0.105671

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

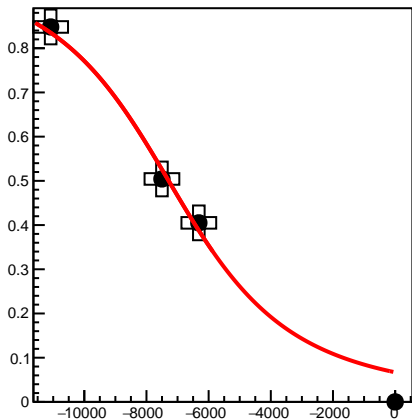
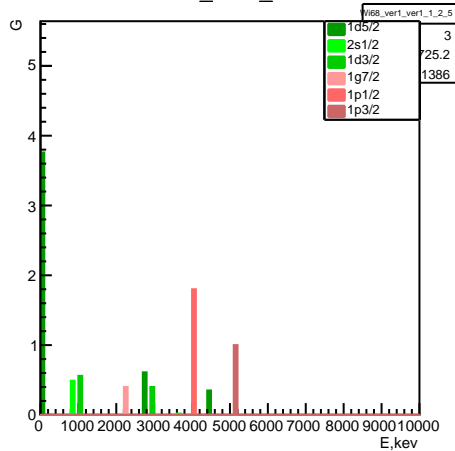
-11056.6 1d5/2 0.813092 0.80715

-7077.74 2s1/2 0.4575 0.805

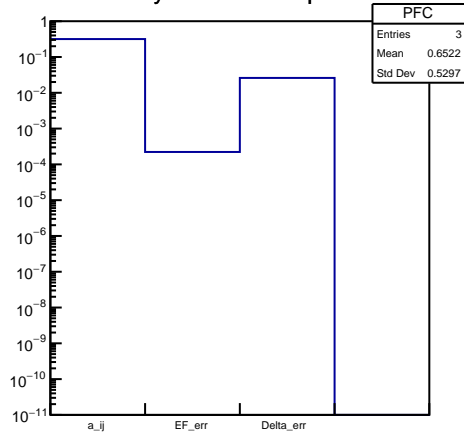
-7760.57 1d3/2 0.5118 0.4864

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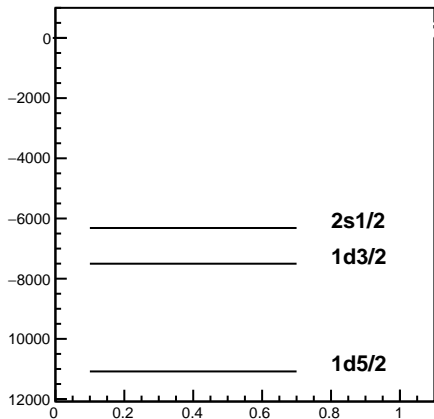
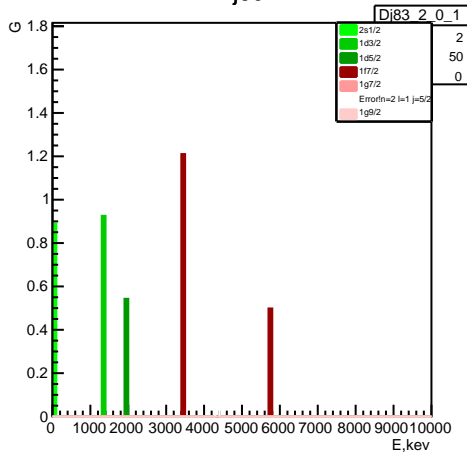
Wi68_ver1_ver1



Penalty function components



Dj83



Experiment: Wi68_ver1_ver1 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

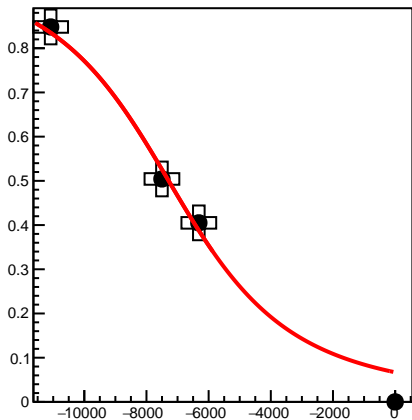
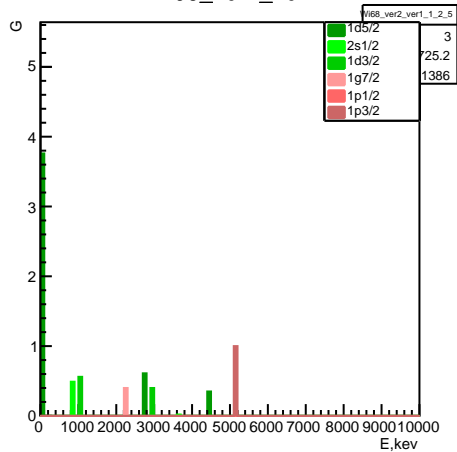
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

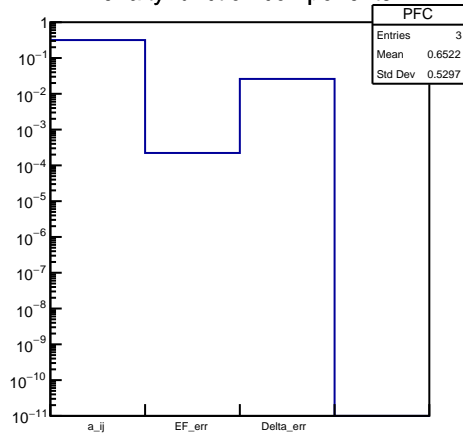
-7502.26 1d3/2 0.5043 0.4714

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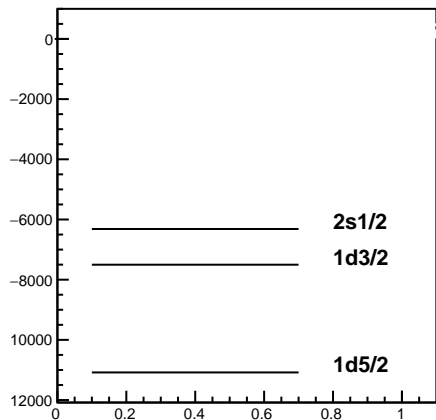
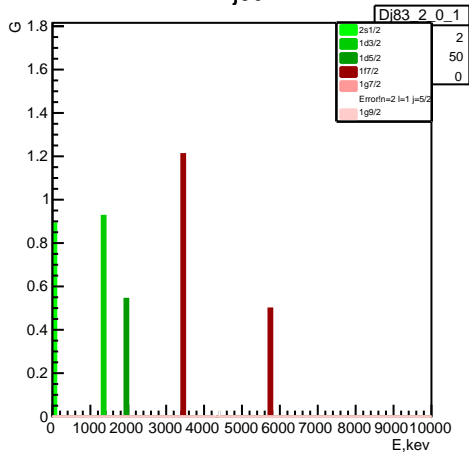
Wi68_ver2_ver1



Penalty function components



Dj83



Experiment: Wi68_ver2_ver1 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

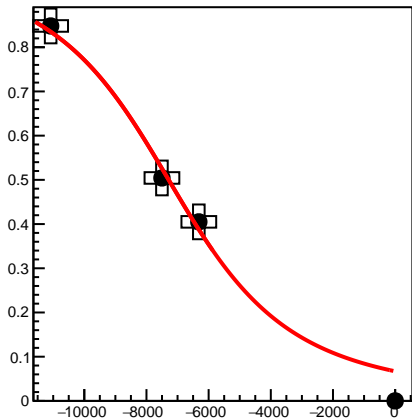
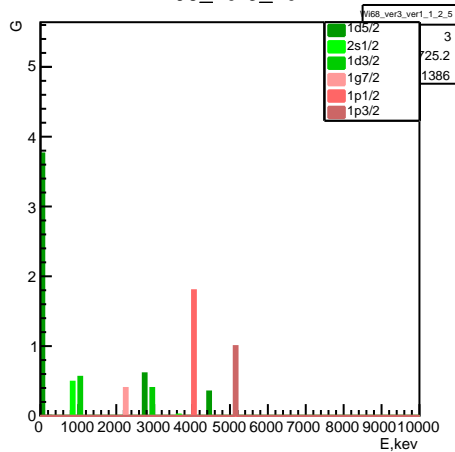
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

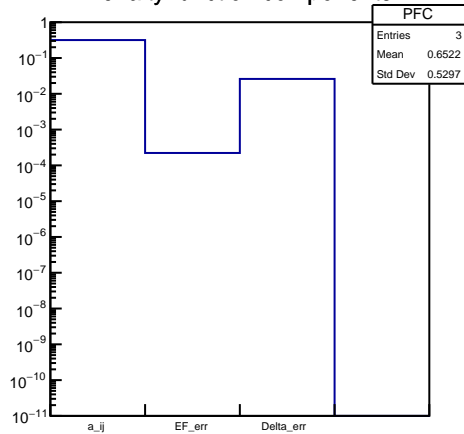
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

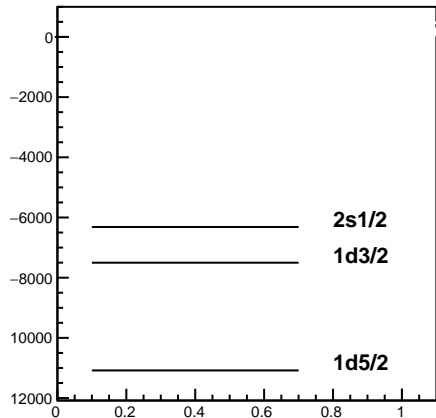
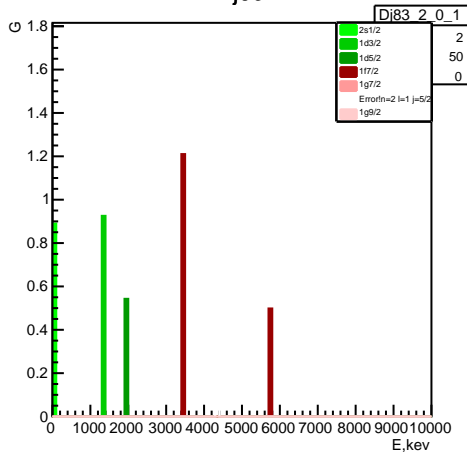
Wi68_ver3_ver1



Penalty function components



Dj83



Experiment: Wi68_ver3_ver1 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

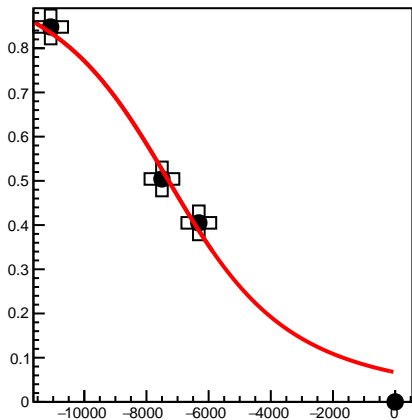
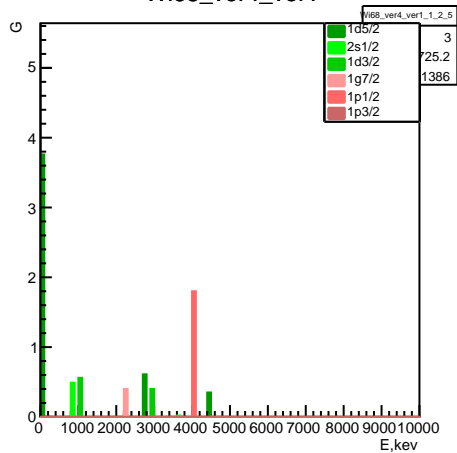
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

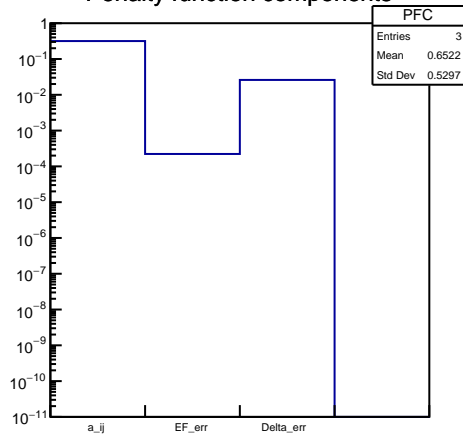
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

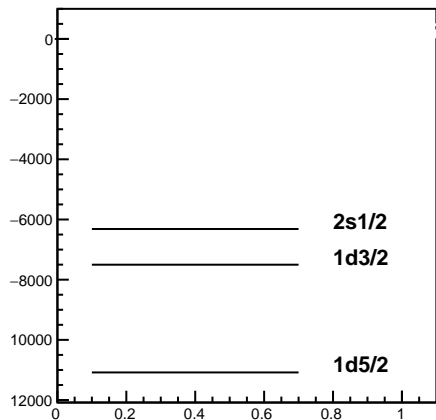
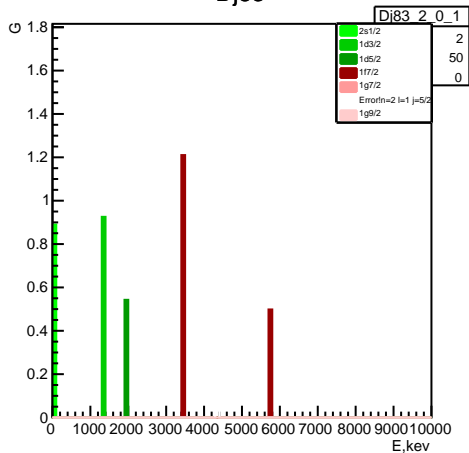
Wi68_ver4_ver1



Penalty function components



Dj83



Experiment: Wi68_ver4_ver1 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42 \text{ keV}$ $\Delta: -4205.17 \pm 579.649 \text{ keV}$

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

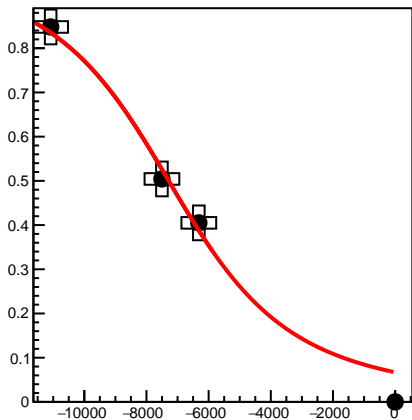
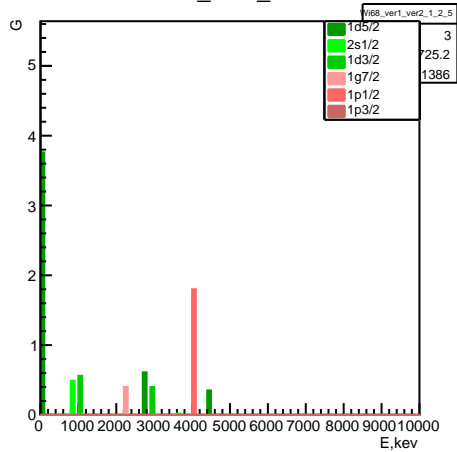
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

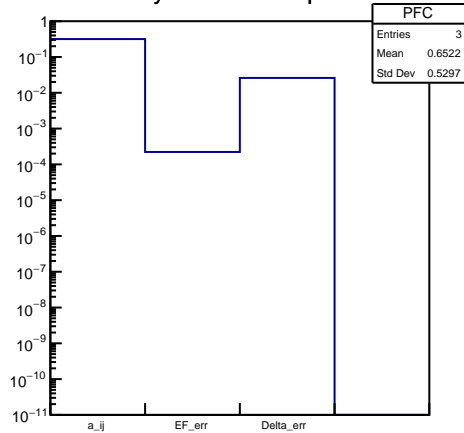
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

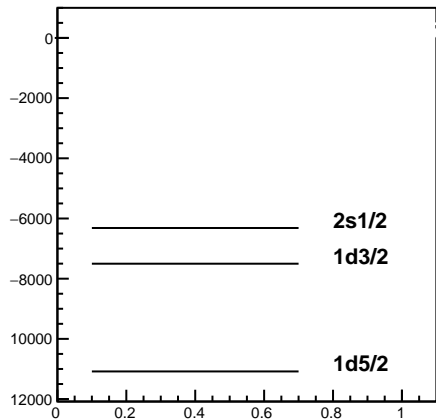
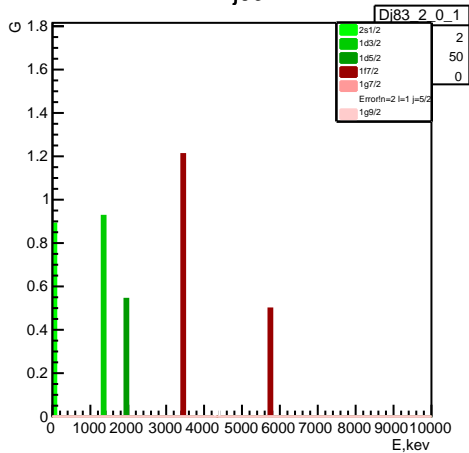
Wi68_ver1_ver2



Penalty function components



Dj83



Experiment: Wi68_ver1_ver2 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

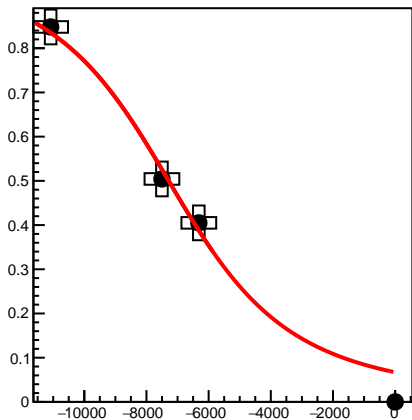
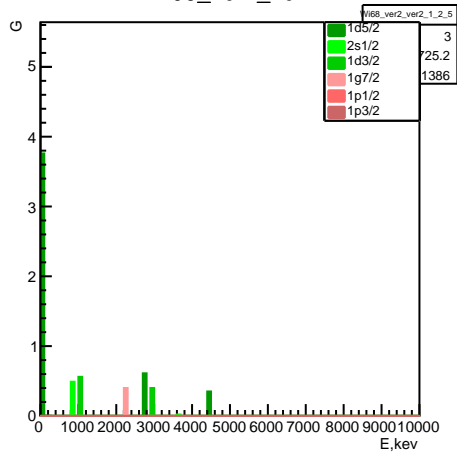
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

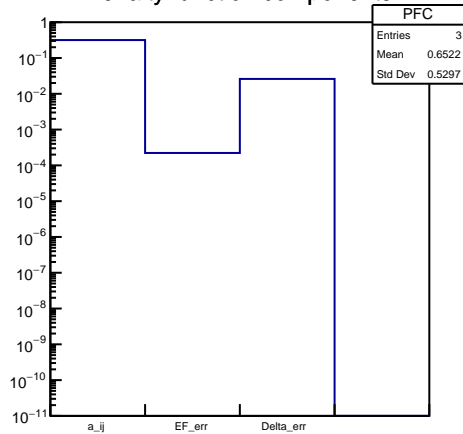
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

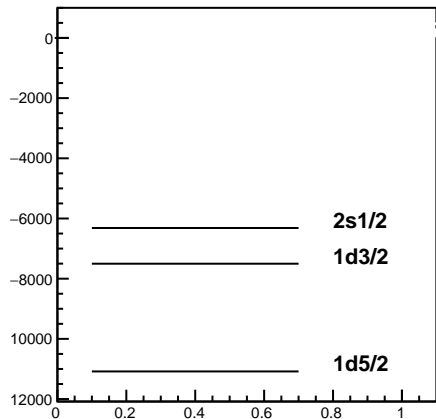
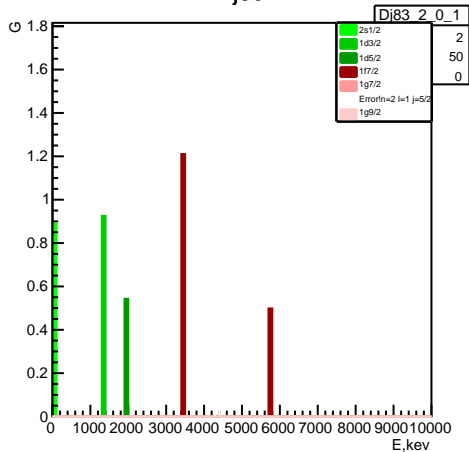
Wi68_ver2_ver2



Penalty function components



Dj83



Experiment: Wi68_ver2_ver2 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

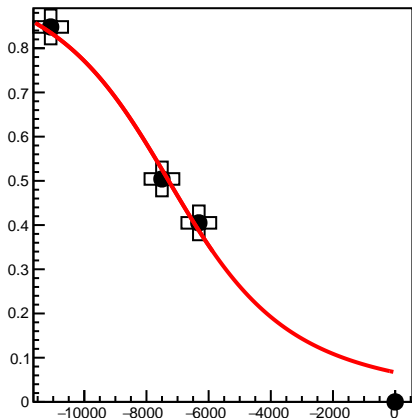
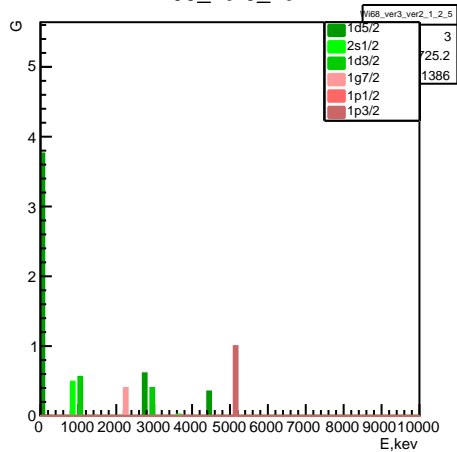
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

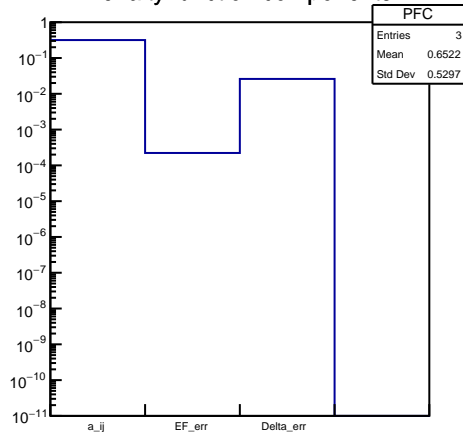
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

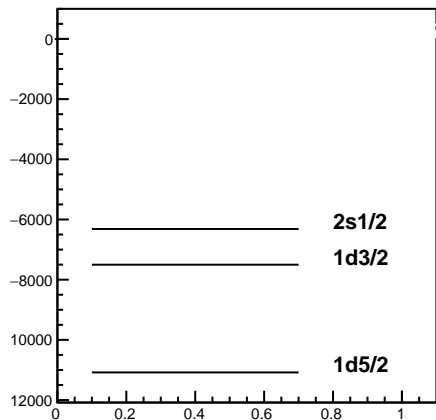
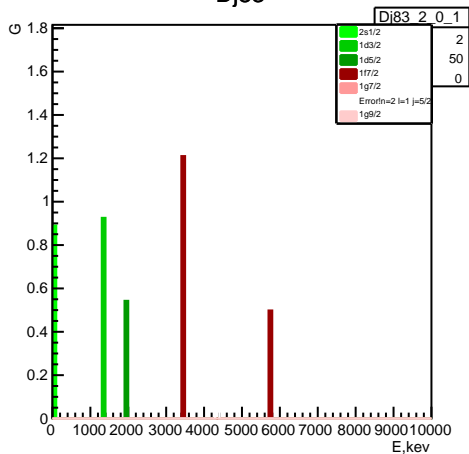
Wi68_ver3_ver2



Penalty function components



Dj83



Experiment: Wi68_ver3_ver2 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -7285.25 \pm 181.42 keV Δ : -4205.17 \pm 579.649 keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

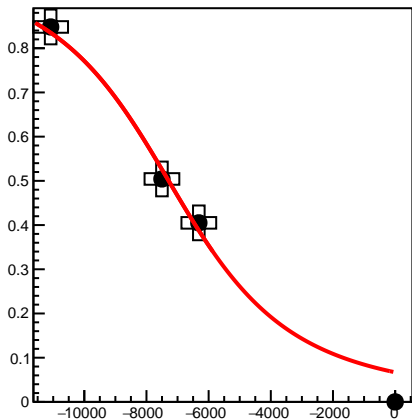
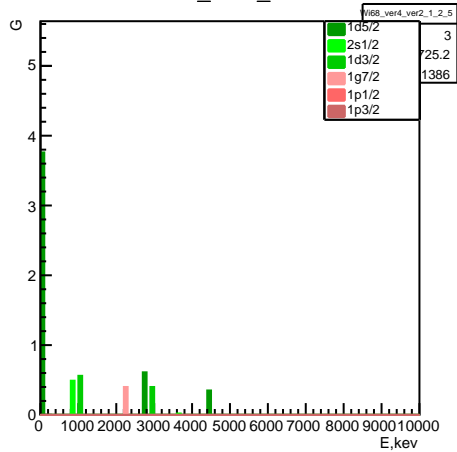
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

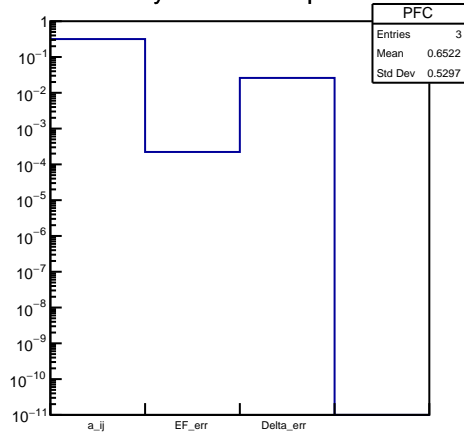
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=-529139971 l=1072435612 j=0/2 0 1

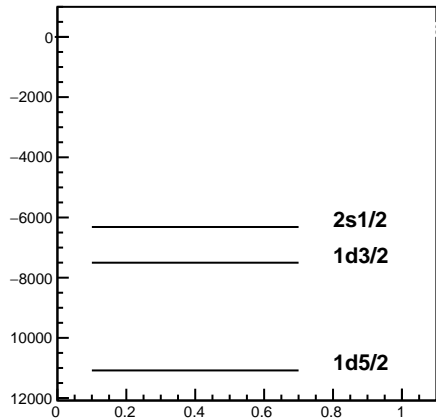
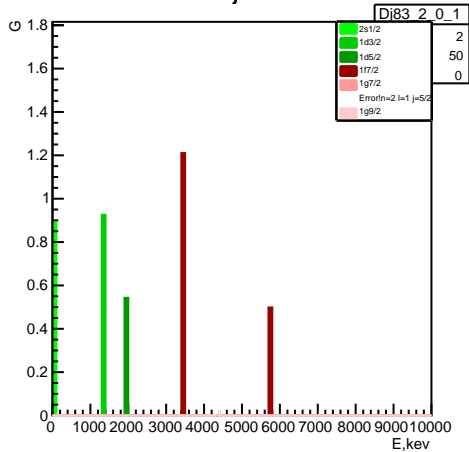
Wi68_ver4_ver2



Penalty function components



Dj83



Experiment: Wi68_ver4_ver2 (10) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7285.25 \pm 181.42$ keV $\Delta: -4205.17 \pm 579.649$ keV

penalty: 0.114463

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

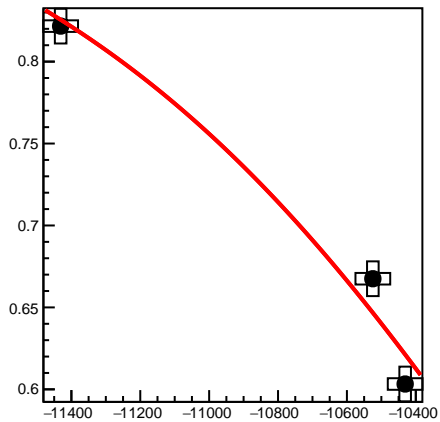
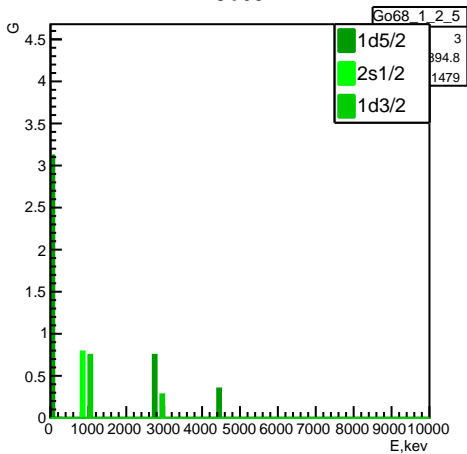
-11082.2 1d5/2 0.848092 0.87715

-6315.62 2s1/2 0.405 0.7

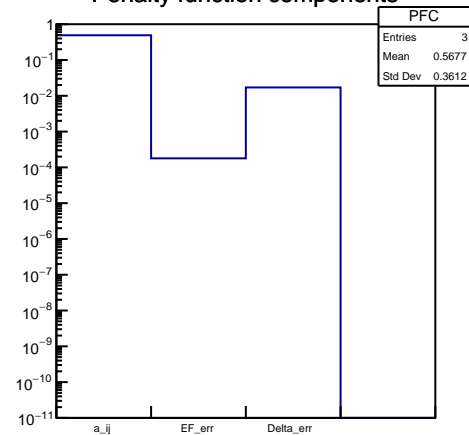
-7502.26 1d3/2 0.5043 0.4714

0 Error!n=1627012800 l=21961 j=0/2 0 4.6601

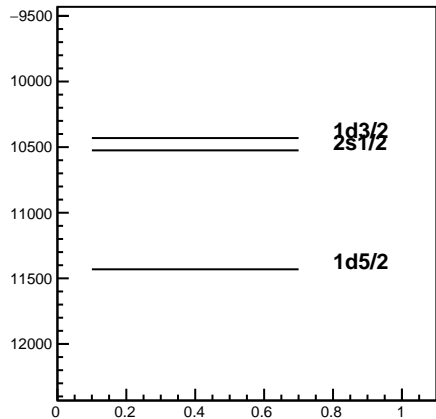
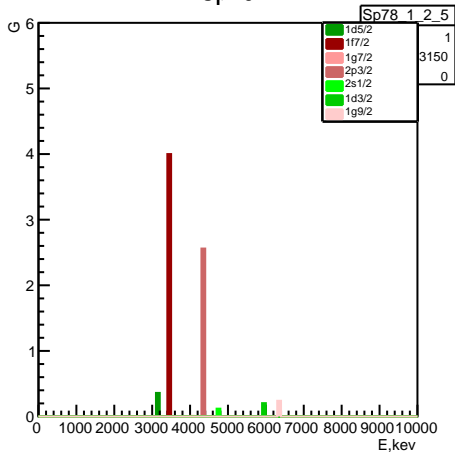
Go68



Penalty function components



Sp78



Experiment: Go68 (6) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 E_F : -10019.6 \pm 146.011 keV Δ : 1645.45 \pm 381.385 keV

penalty: 0.169451

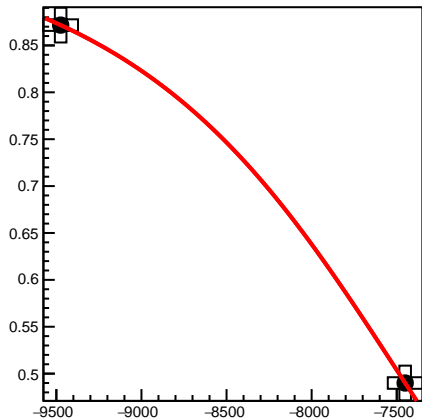
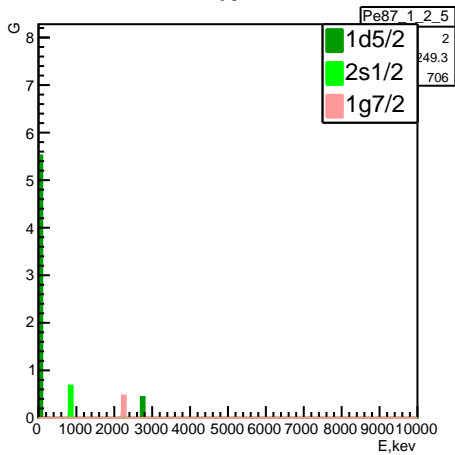
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11431.2 1d5/2 0.821667 0.763333

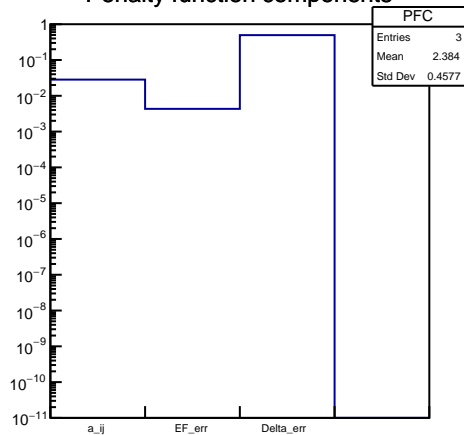
-10524.7 2s1/2 0.6675 0.455

-10430.9 1d3/2 0.60325 0.3085

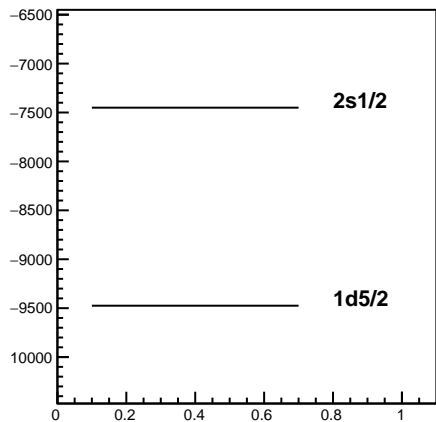
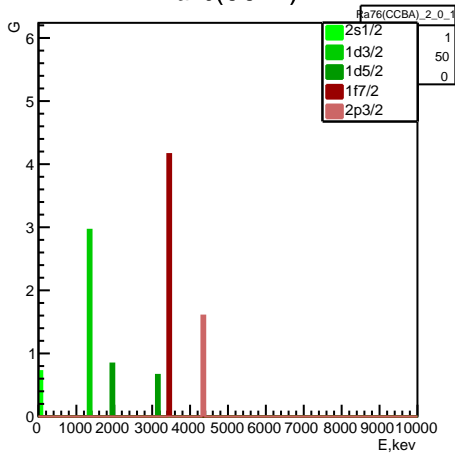
Pe87



Penalty function components



Ra76(CCBA)



Experiment: Pe87 (4) Ra76(CCBA) (6)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7486.37 \pm 3524.26 \text{ keV}$ $\Delta: 1789.42 \pm 11034 \text{ keV}$

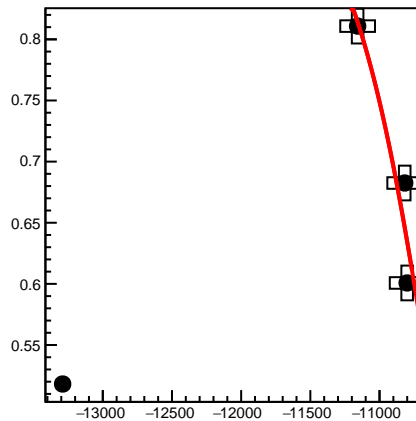
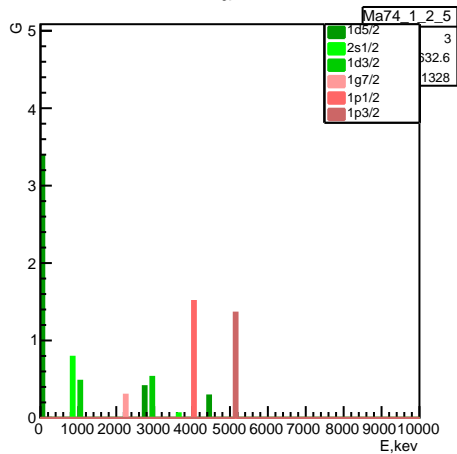
penalty: 0.175963

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

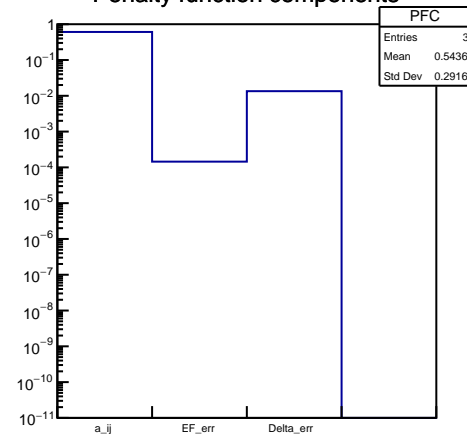
-9474.8 1d5/2 0.871667 1.24333

-7450.51 2s1/2 0.49 0.7

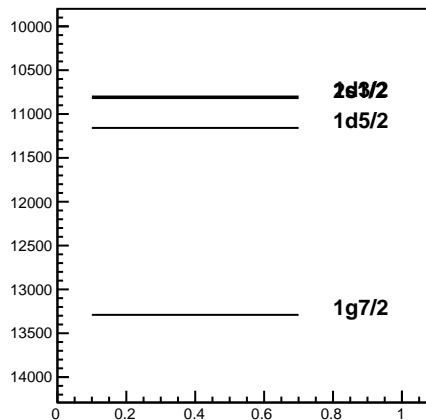
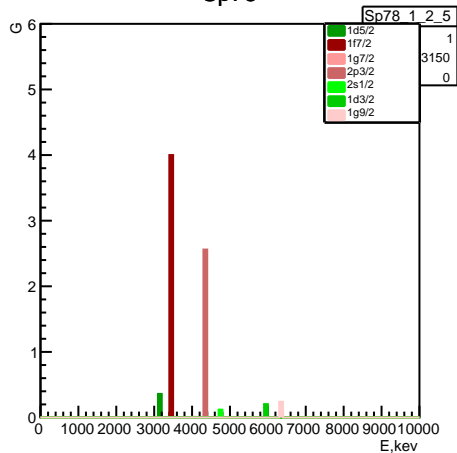
Ma74



Penalty function components



Sp78



Experiment: Ma74 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -10610.9 \pm 118.087 \text{ keV}$ $\Delta: -677.741 \pm 300.049 \text{ keV}$

penalty: 0.207123

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

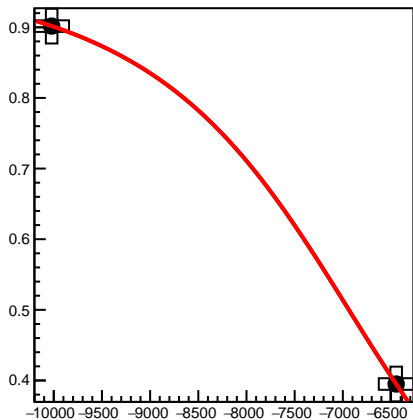
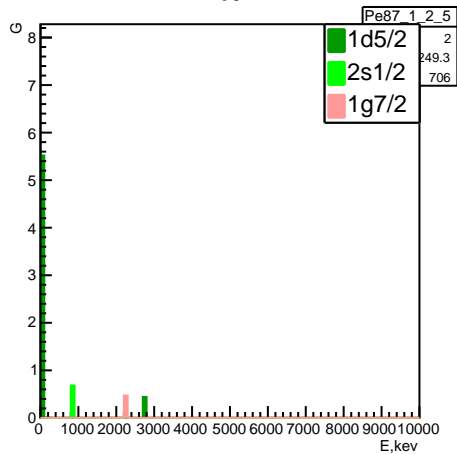
-11158.3 1d5/2 0.810833 0.741667

-10818 2s1/2 0.6825 0.485

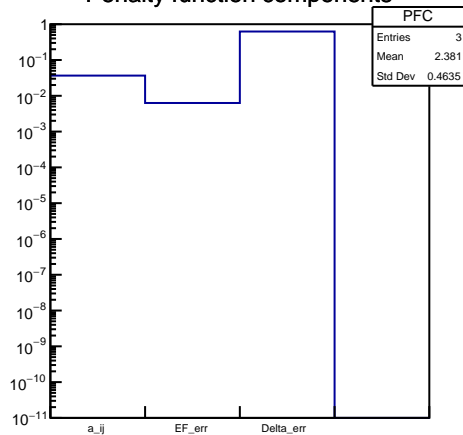
-10800.3 1d3/2 0.60075 0.3035

-13290.1 1g7/2 0.5181 0.0388

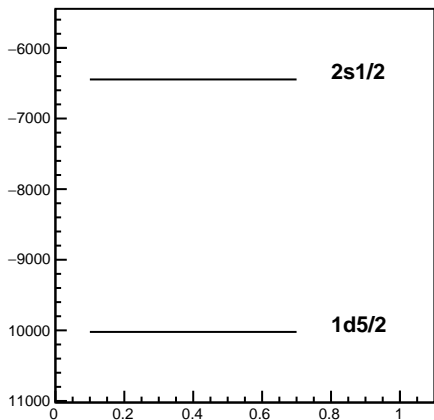
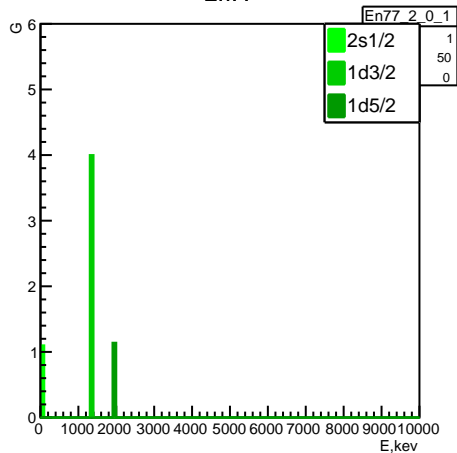
Pe87



Penalty function components



En77



Experiment: Pe87 (4) En77 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -6937.32 \pm 5141.13 keV Δ : -2284.43 \pm 13925.1 keV

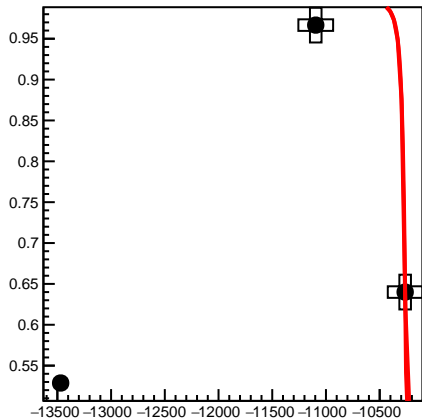
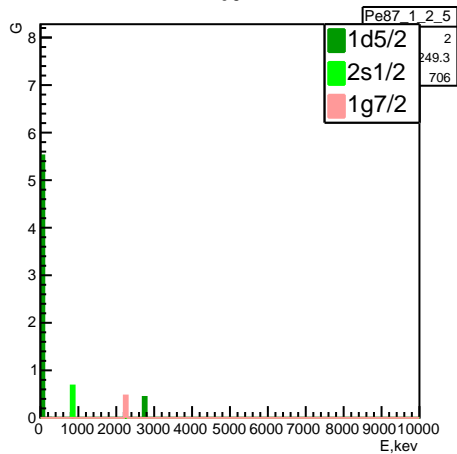
penalty: 0.222654

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

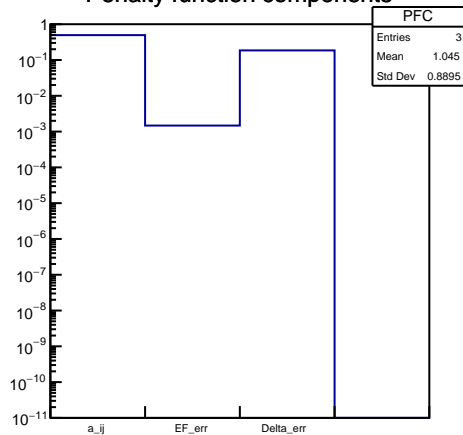
-10022 1d5/2 0.901667 1.18333

-6446.78 2s1/2 0.395 0.89

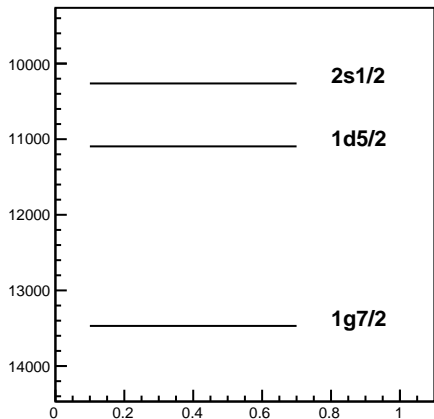
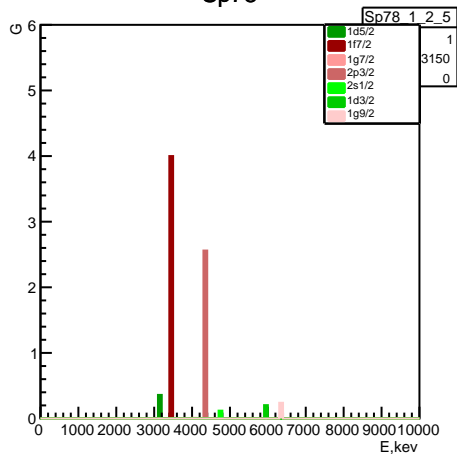
Pe87



Penalty function components



Sp78



Experiment: Pe87 (4) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -10251.3 \pm 1203.34 \text{ keV}$ $\Delta: 39.8121 \pm 4130.31 \text{ keV}$

penalty: 0.227464

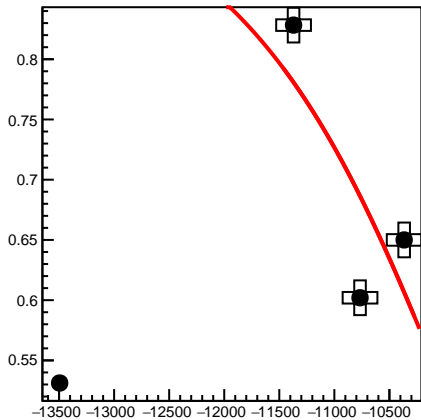
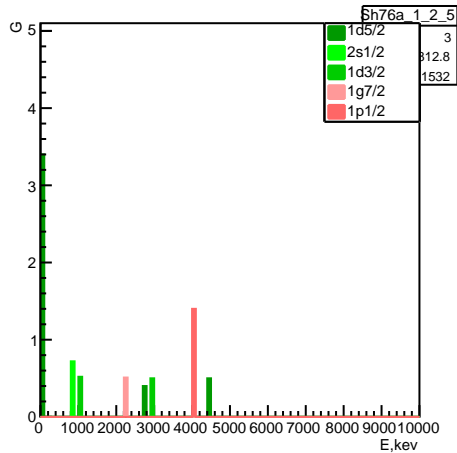
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-11095.2 1d5/2 0.966667 1.05333

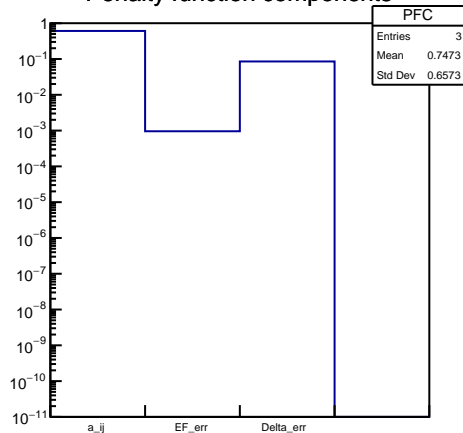
-10262.9 2s1/2 0.64 0.4

-13469.5 1g7/2 0.528725 0.06005

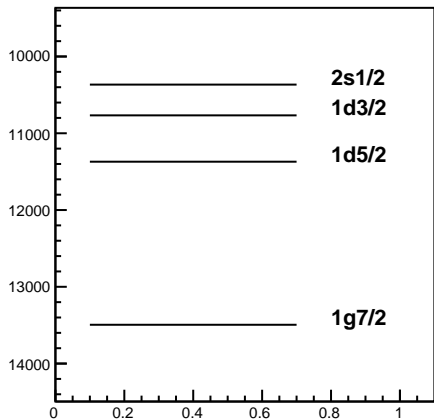
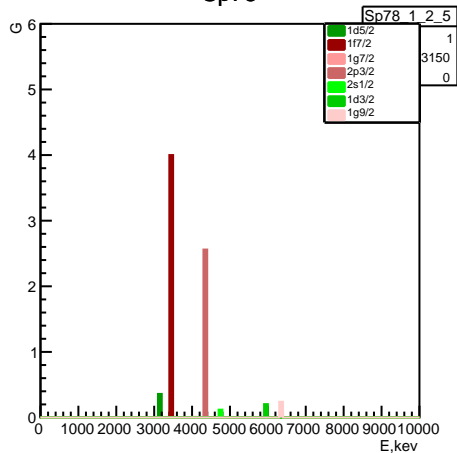
Sh76a



Penalty function components



Sp78



Experiment: Sh76a (8) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -9890.61 \pm 781.878 \text{ keV}$ $\Delta: -2180.27 \pm 1902.21 \text{ keV}$

penalty: 0.231468

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

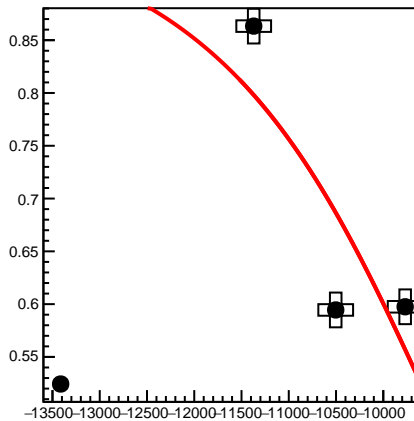
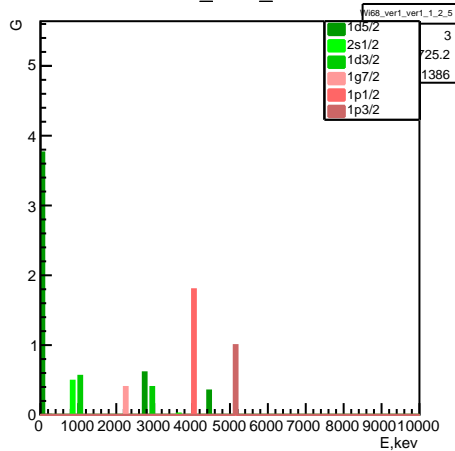
-11370.4 1d5/2 0.828333 0.776667

-10366.1 2s1/2 0.65 0.42

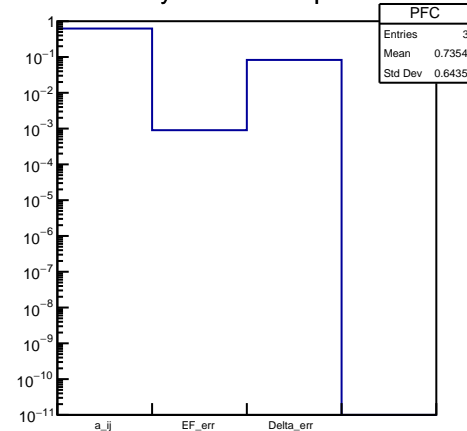
-10766.8 1d3/2 0.602 0.306

-13494.7 1g7/2 0.531225 0.06505

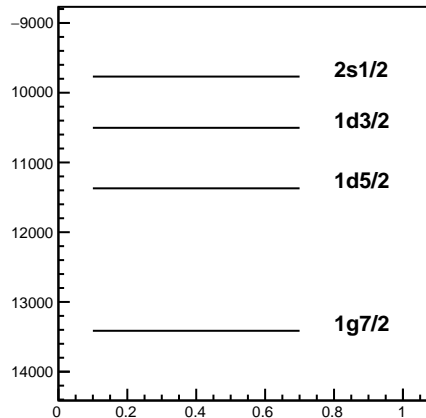
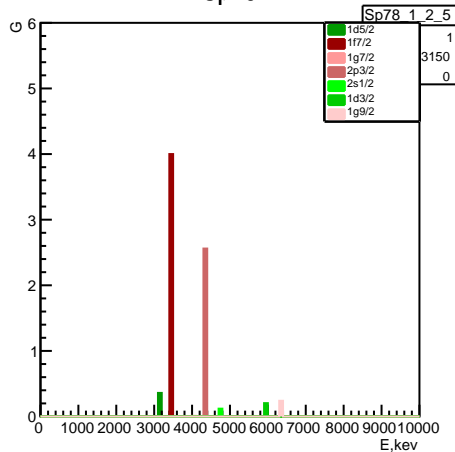
Wi68_ver1_ver1



Penalty function components



Sp78



Experiment: Wi68_ver1_ver1 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F : -9476.21 ± 736.63 keV

Δ : 2551.36 ± 1845.94 keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

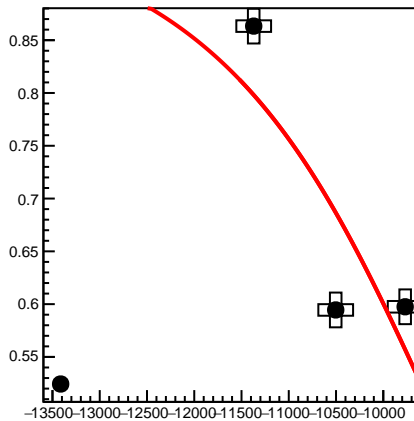
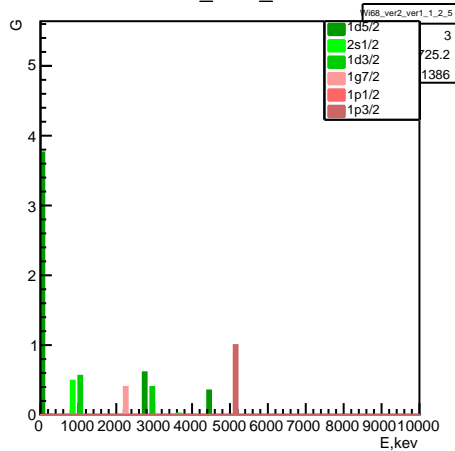
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

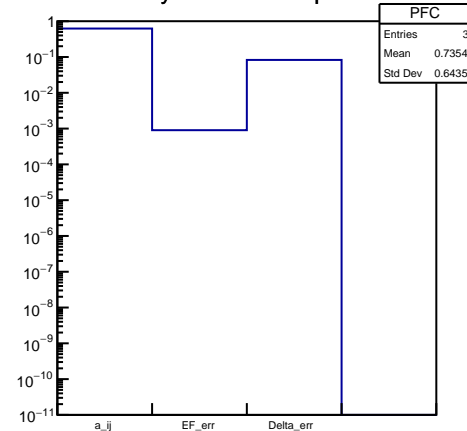
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

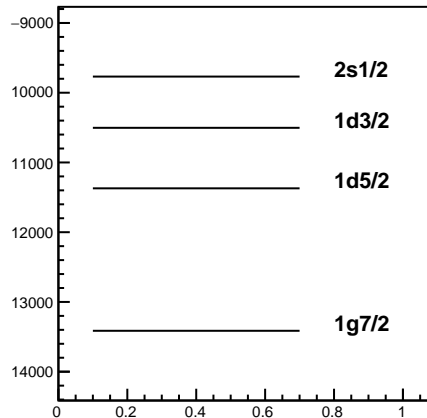
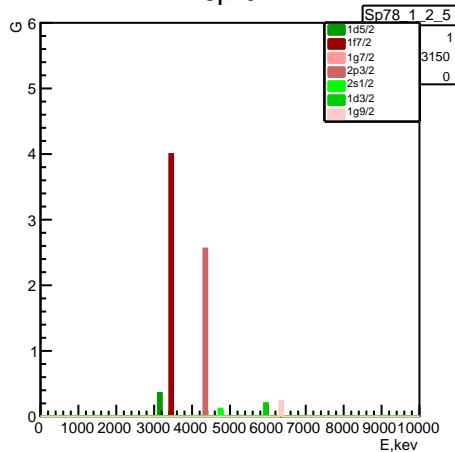
Wi68_ver2_ver1



Penalty function components



Sp78



Experiment: Wi68_ver2_ver1 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -9476.21 \pm 736.63 keV

Δ : 2551.36 \pm 1845.94 keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

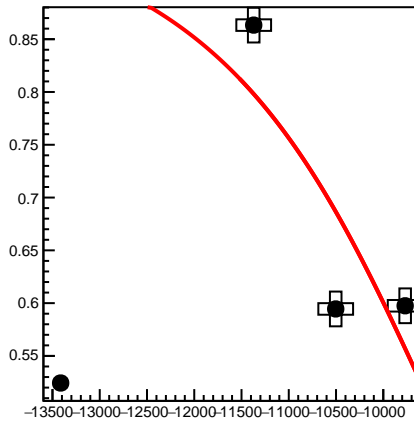
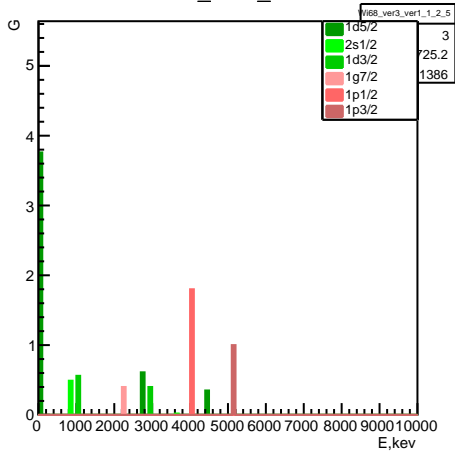
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

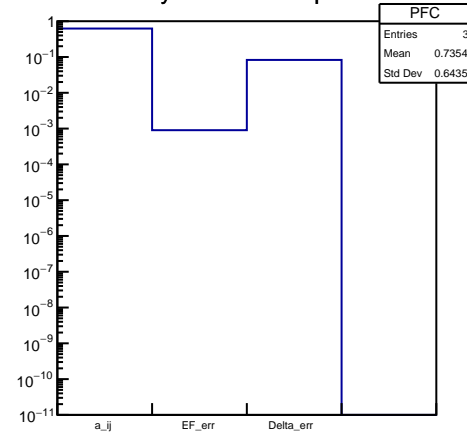
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

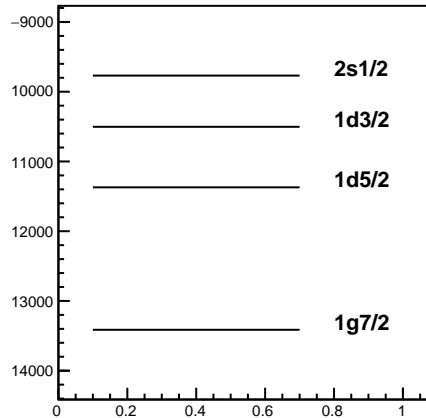
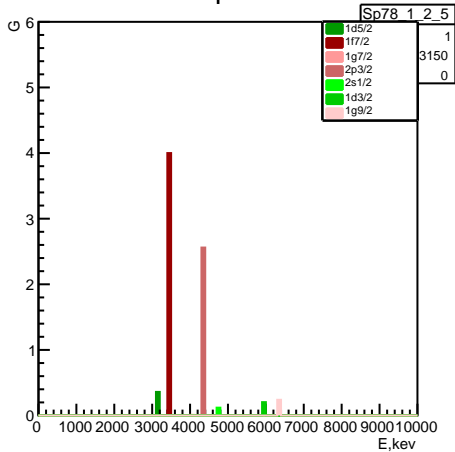
Wi68_ver3_ver1



Penalty function components



Sp78



Experiment: Wi68_ver3_ver1 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -9476.21 \pm 736.63 \text{ keV}$ $\Delta: 2551.36 \pm 1845.94 \text{ keV}$

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

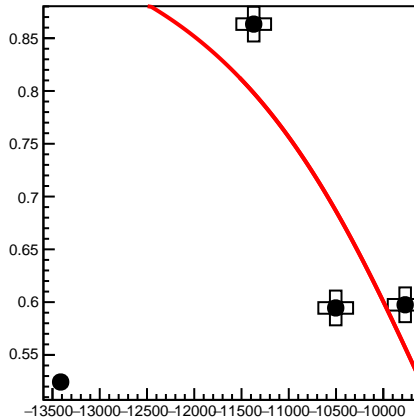
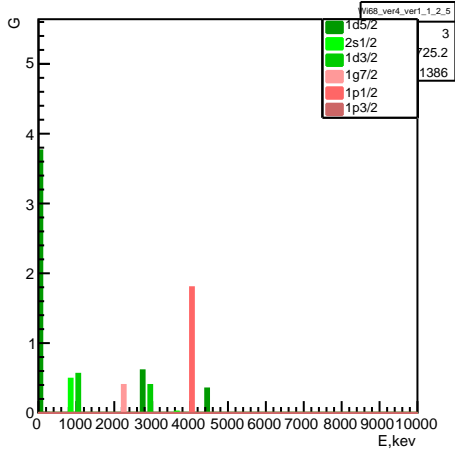
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

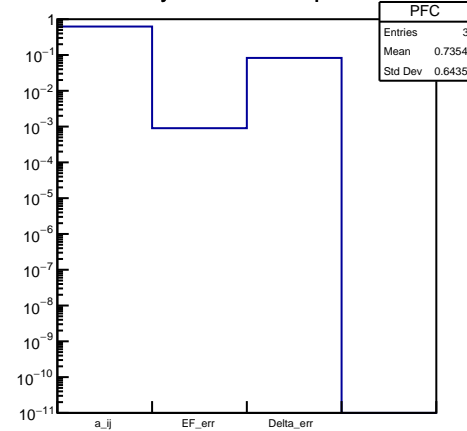
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

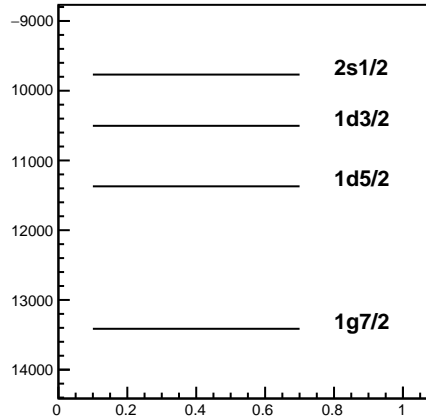
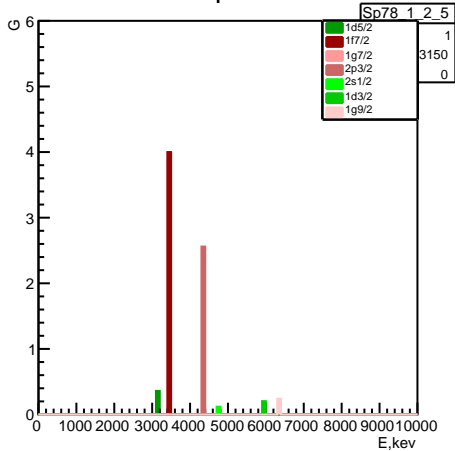
Wi68_ver4_ver1



Penalty function components



Sp78



Experiment: Wi68_ver4_ver1 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -9476.21 \pm 736.63$ keV $\Delta: 2551.36 \pm 1845.94$ keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

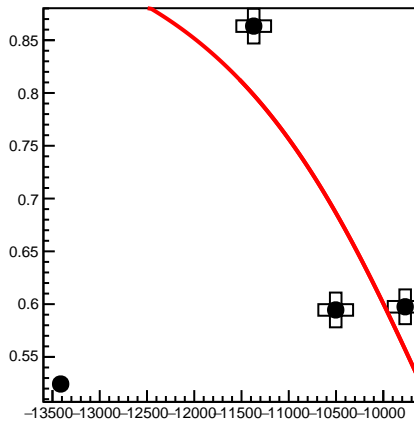
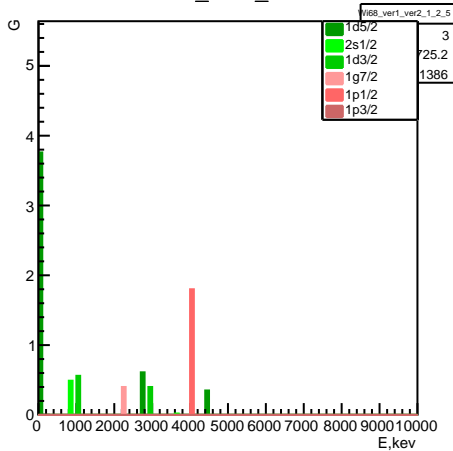
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

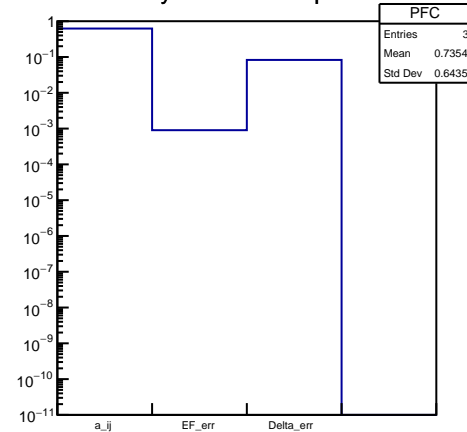
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

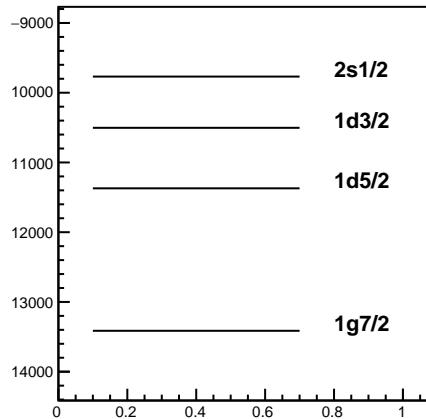
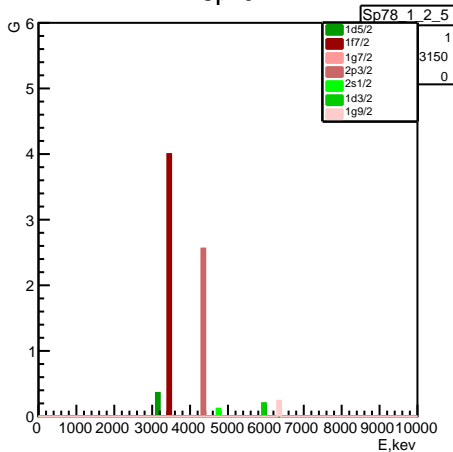
Wi68_ver1_ver2



Penalty function components



Sp78



Experiment: Wi68_ver1_ver2 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -9476.21 \pm 736.63 \text{ keV}$ $\Delta: 2551.36 \pm 1845.94 \text{ keV}$

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

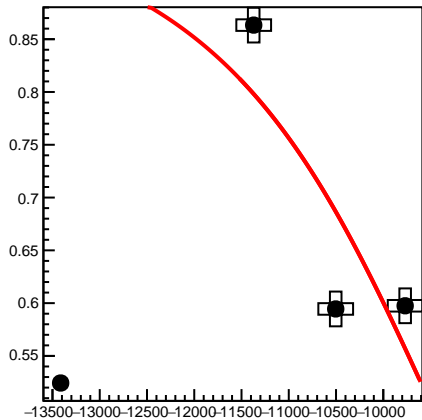
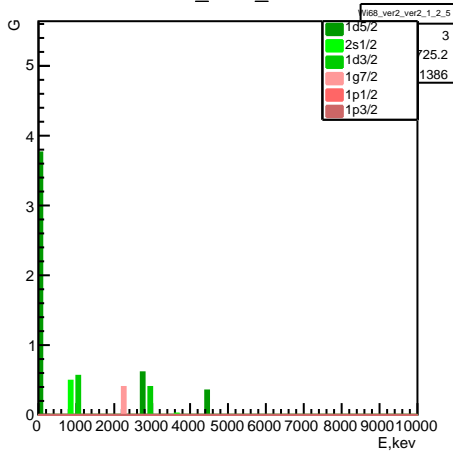
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

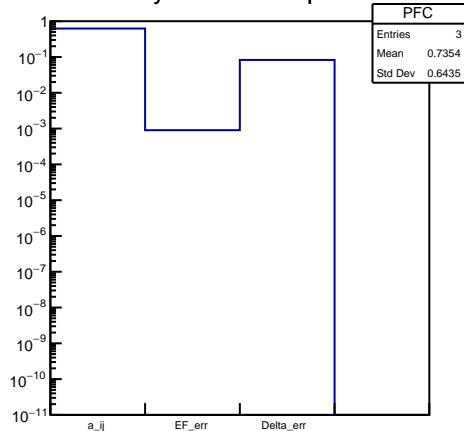
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

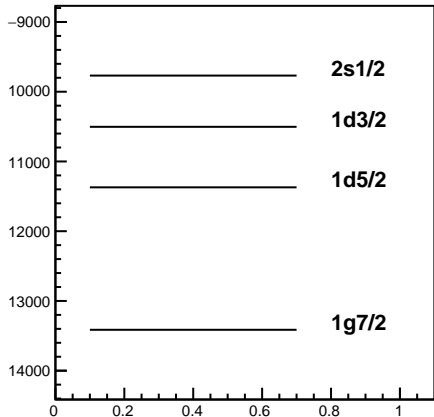
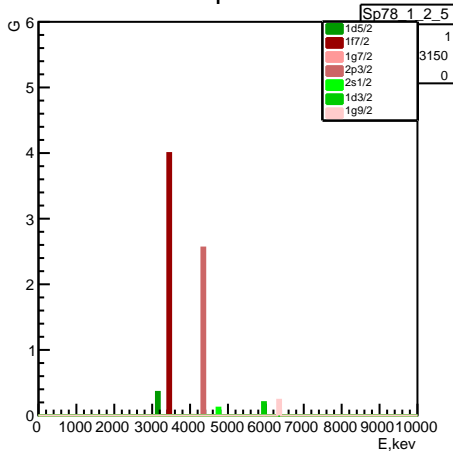
Wi68_ver2_ver2



Penalty function components



Sp78



Experiment: Wi68_ver2_ver2 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F: -9476.21 \pm 736.63 keV

Δ : 2551.36 \pm 1845.94 keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

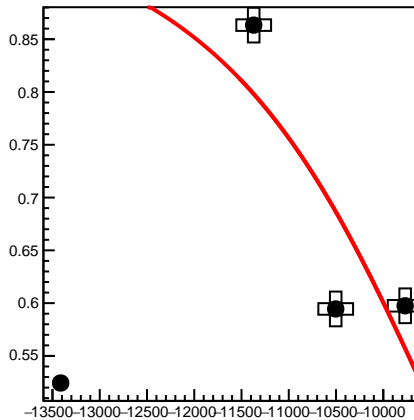
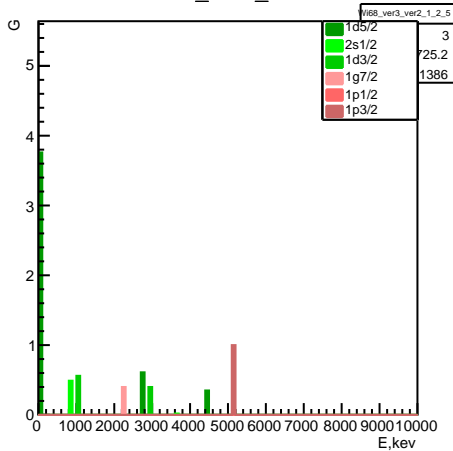
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

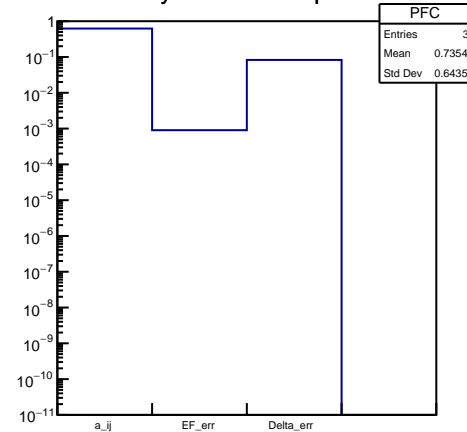
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

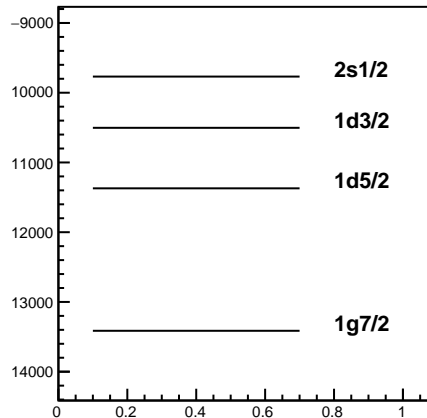
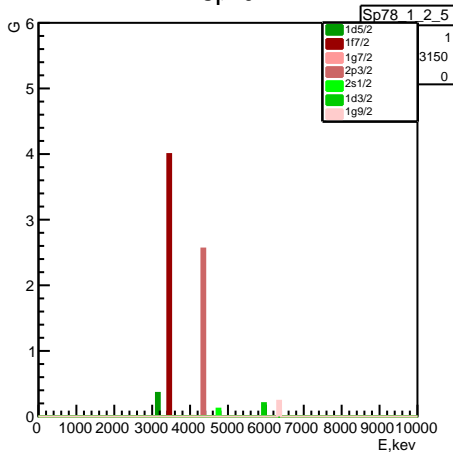
Wi68_ver3_ver2



Penalty function components



Sp78



Experiment: Wi68_ver3_ver2 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

E_F : -9476.21 ± 736.63 keV

Δ : 2551.36 ± 1845.94 keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

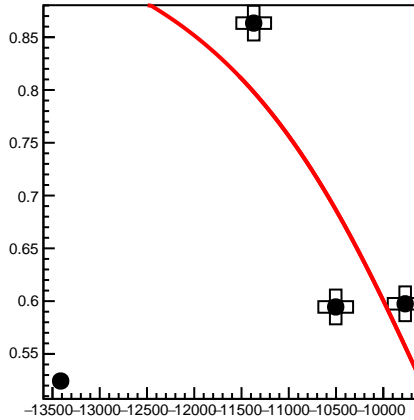
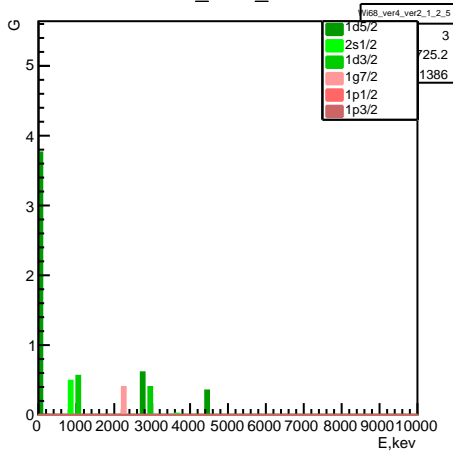
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

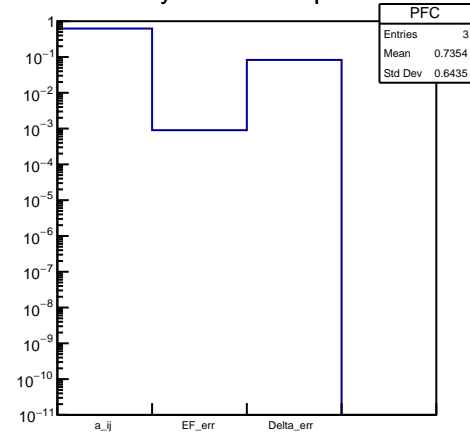
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

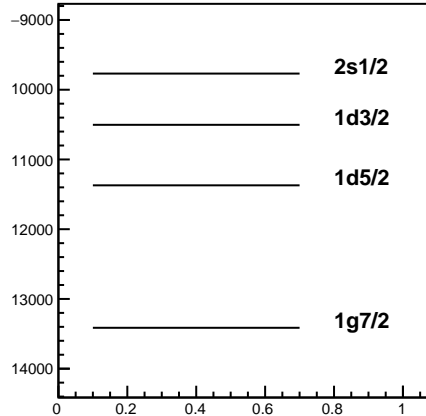
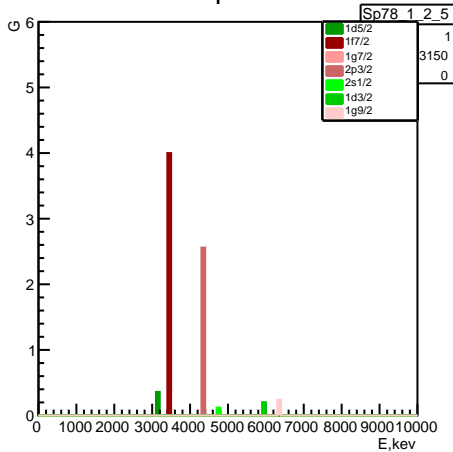
Wi68_ver4_ver2



Penalty function components



Sp78



Experiment: Wi68_ver4_ver2 (10) Sp78 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -9476.21 \pm 736.63$ keV $\Delta: 2551.36 \pm 1845.94$ keV

penalty: 0.235921

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

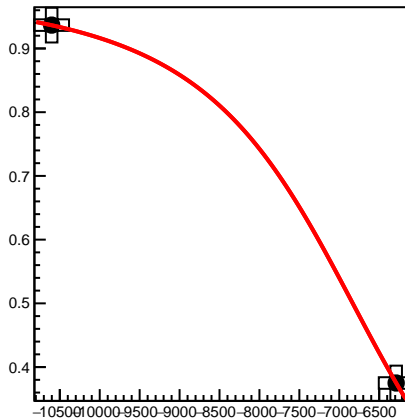
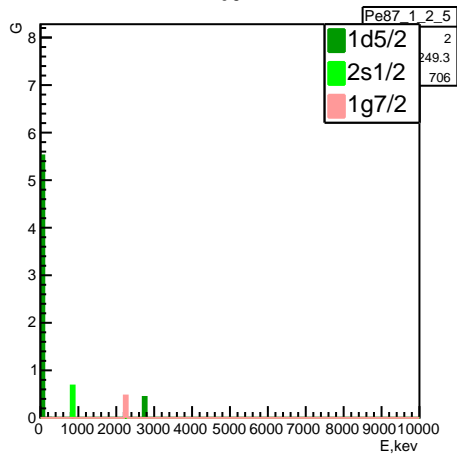
-11371 1d5/2 0.863333 0.846667

-9768.53 2s1/2 0.5975 0.315

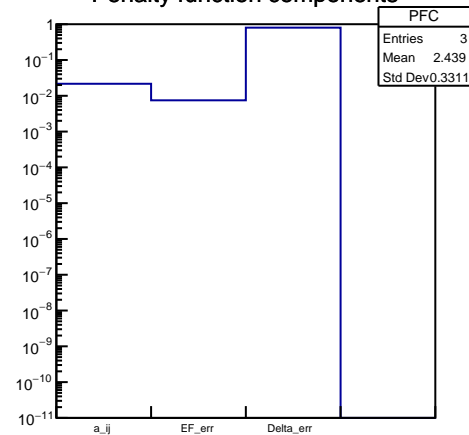
-10503.3 1d3/2 0.5945 0.291

-13413.6 1g7/2 0.52435 0.0513

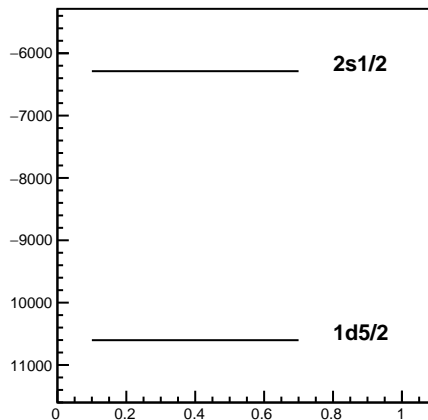
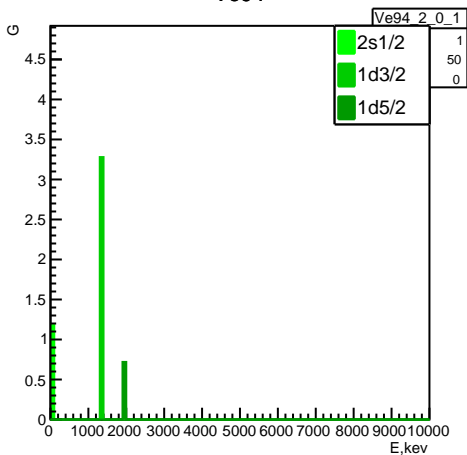
Pe87



Penalty function components



Ve94



Experiment: Pe87 (4) Ve94 (3)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6831.39 \pm 6104.84 \text{ keV}$ $\Delta: 2107.31 \pm 17854.2 \text{ keV}$

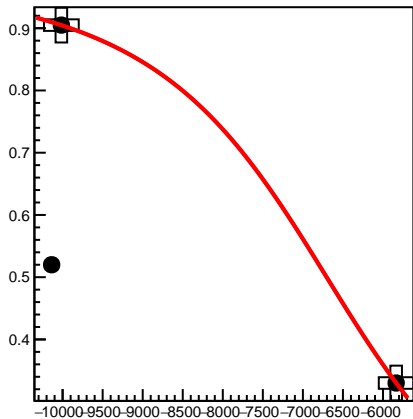
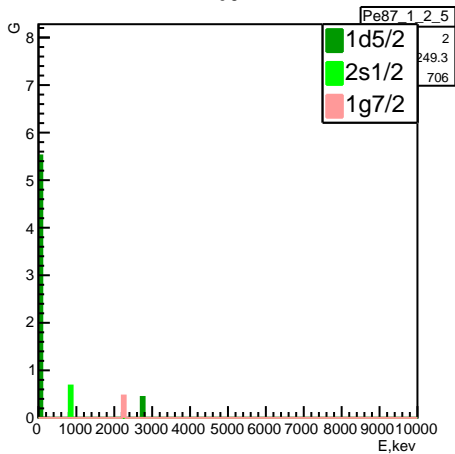
penalty: 0.276831

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

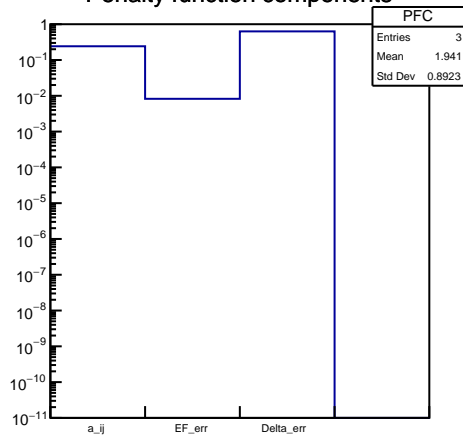
-10602.1 1d5/2 0.936667 1.11333

-6287.73 2s1/2 0.375 0.93

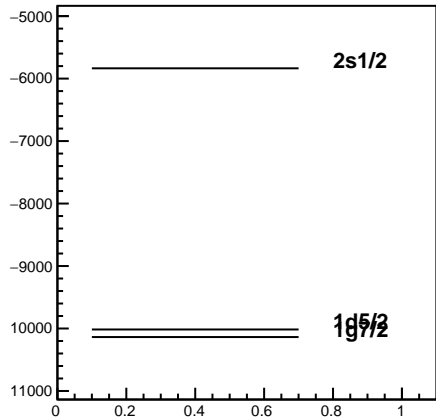
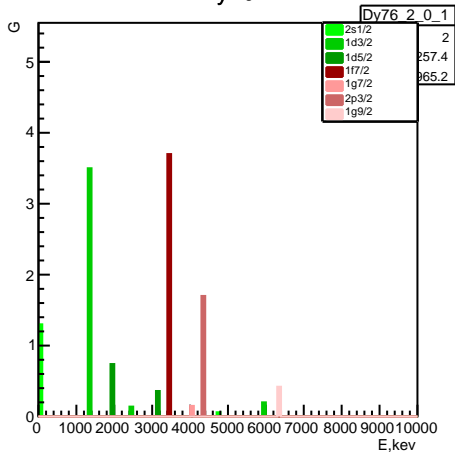
Pe87



Penalty function components



Dy76



Experiment: Pe87 (4) Dy76 (11)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6703.23 \pm 6724.64 \text{ keV}$ $\Delta: -2400.77 \pm 14041.2 \text{ keV}$

penalty: 0.293463

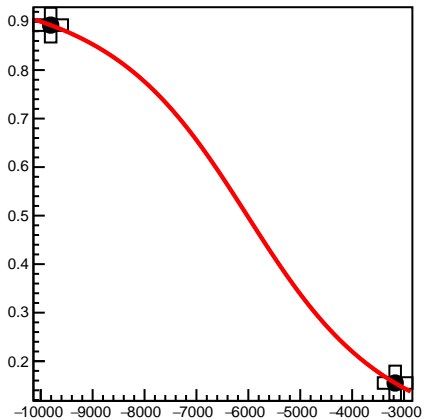
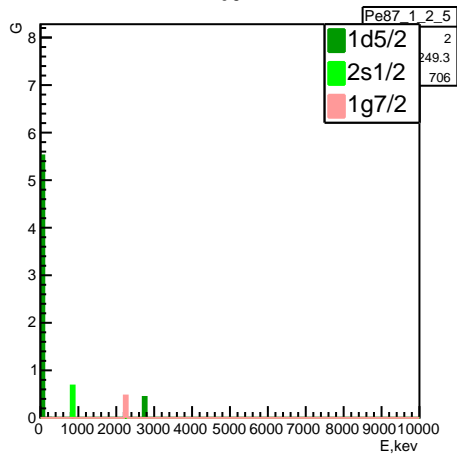
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10015.5 1d5/2 0.905 1.17667

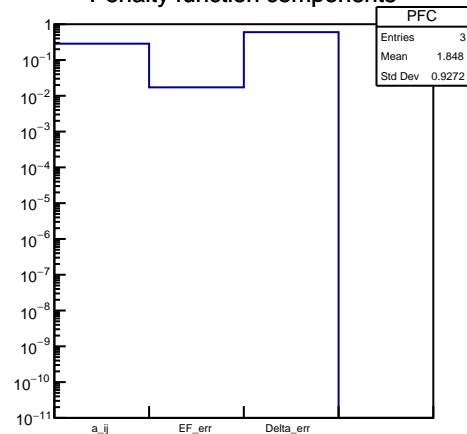
-5835.51 2s1/2 0.33 1.02

-10136.8 1g7/2 0.52 0.0775

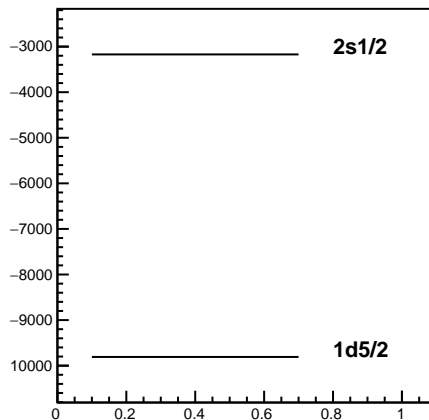
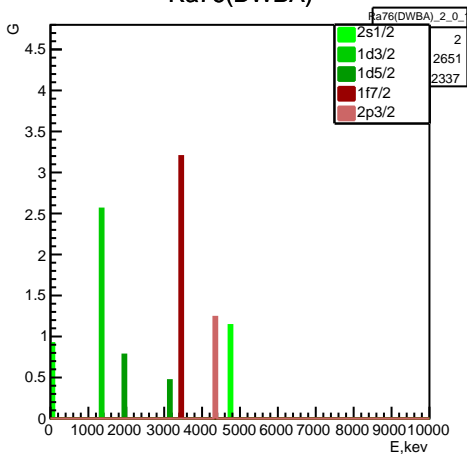
Pe87



Penalty function components



Ra76(DWBA)



Experiment: Pe87 (4) Ra76(DWBA) (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6020.69 \pm 14060.3 \text{ keV}$ $\Delta: -2987.85 \pm 13365.2 \text{ keV}$

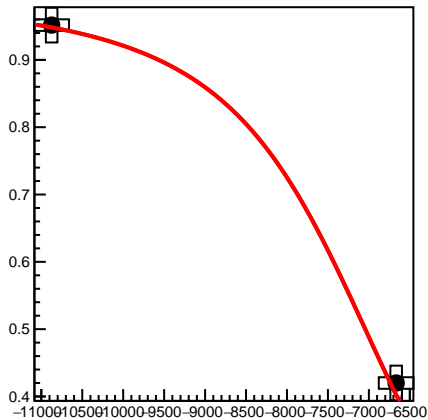
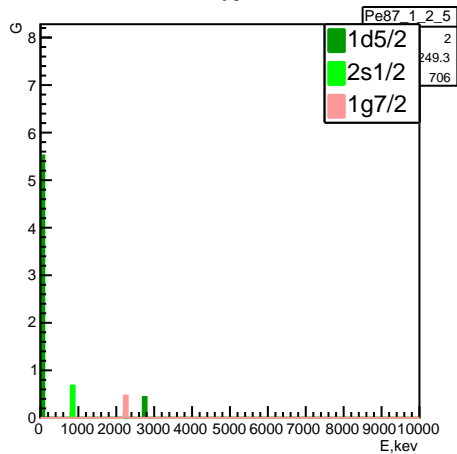
penalty: 0.300919

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

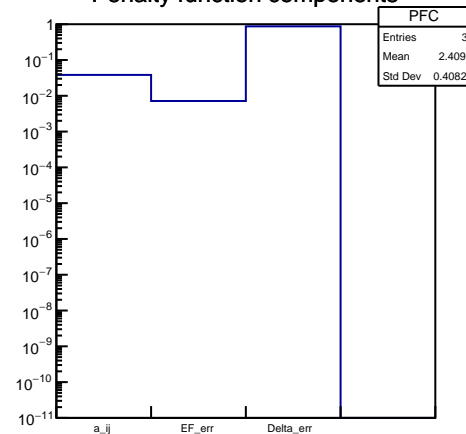
-9808.94 1d5/2 0.892667 1.20133

-3171.13 2s1/2 0.155 1.37

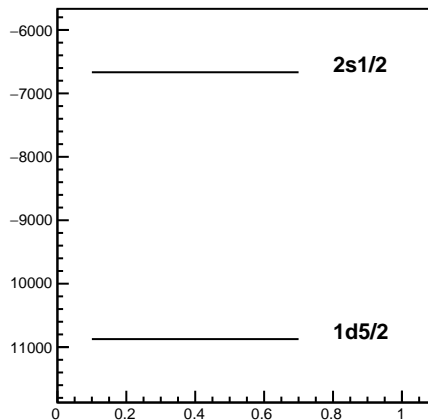
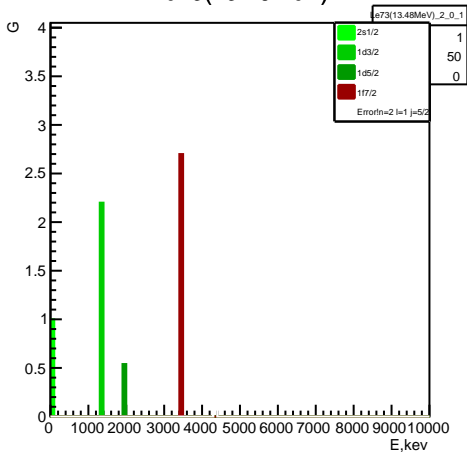
Pe87



Penalty function components



Le73(13.48MeV)



Experiment: Pe87 (4) Le73(13.48MeV) (5)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7044.35 \pm 5840.37 \text{ keV}$ $\Delta: -1892.77 \pm 19419.3 \text{ keV}$

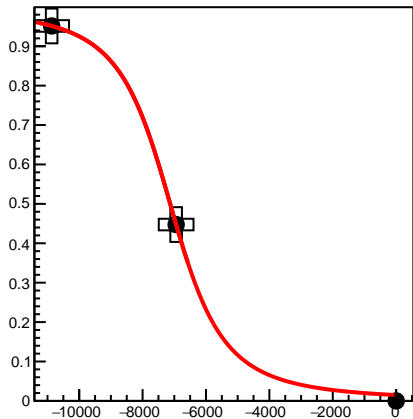
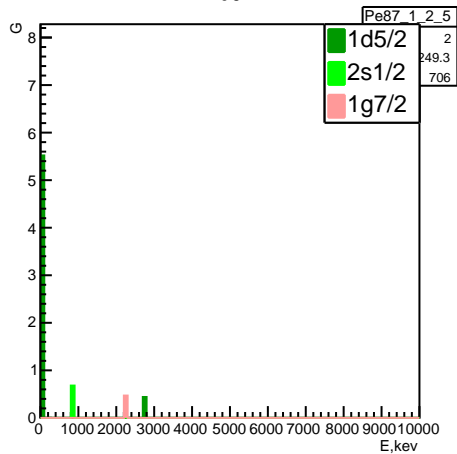
penalty: 0.305694

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

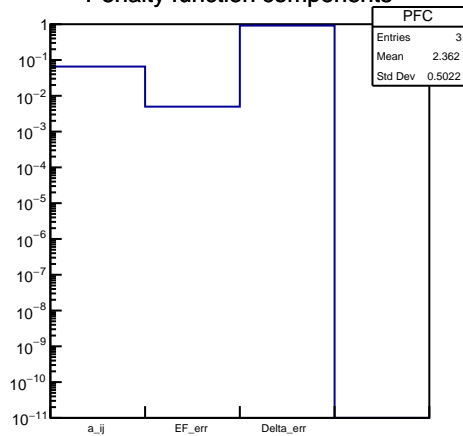
-10873.7 1d5/2 0.951667 1.08333

-6666.9 2s1/2 0.42 0.84

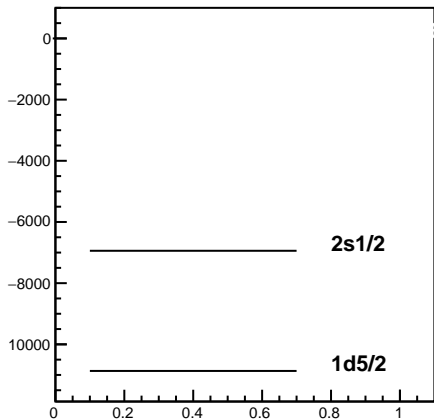
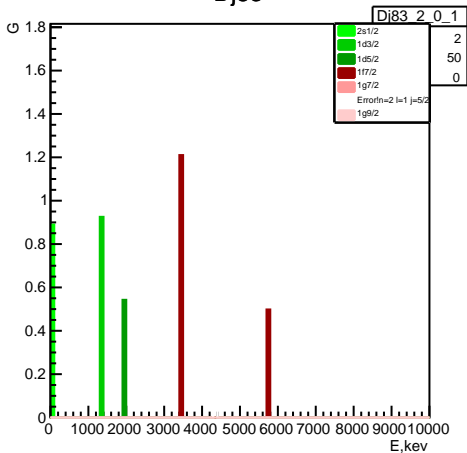
Pe87



Penalty function components



Dj83



Experiment: Pe87 (4) Dj83 (12)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -7129.48 \pm 4060.47$ keV $\Delta: -1780.51 \pm 20383.5$ keV

penalty: 0.328479

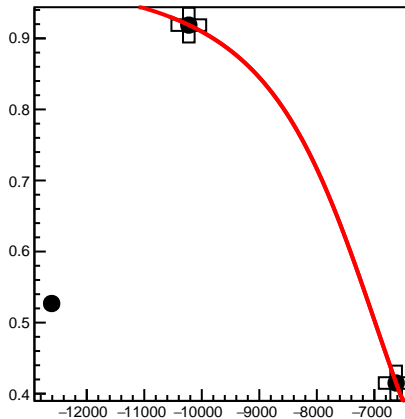
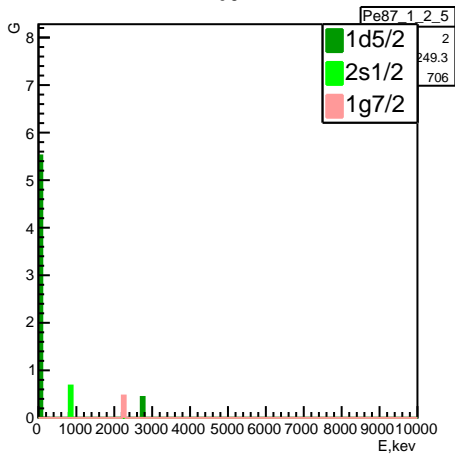
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10869.2 1d5/2 0.951425 1.08382

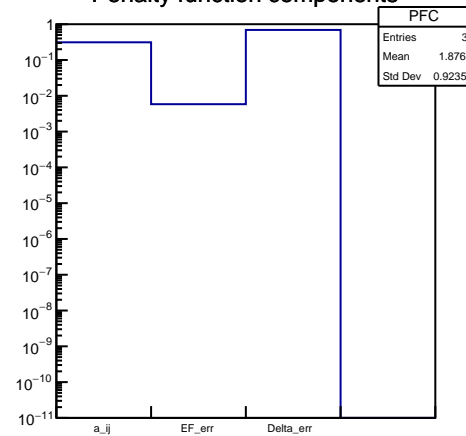
-6941.41 2s1/2 0.4475 0.785

0 Error!n=161 l=0 j=0/2 0 9.51639e-114

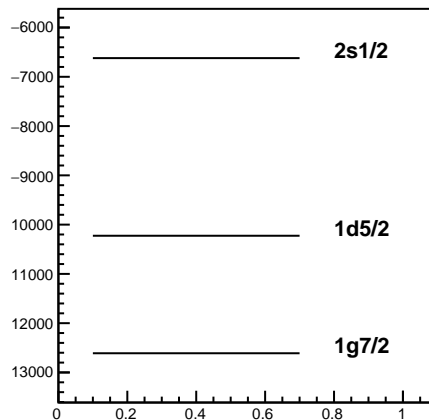
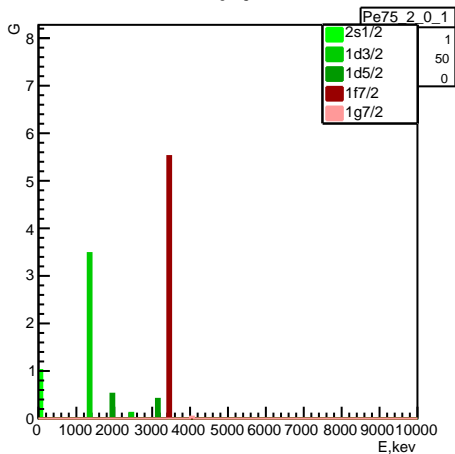
Pe87



Penalty function components



Pe75



Experiment: Pe87 (4) Pe75 (7)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6985.24 \pm 4757.44$ keV $\Delta: -2112.92 \pm 15422.1$ keV

penalty: 0.336774

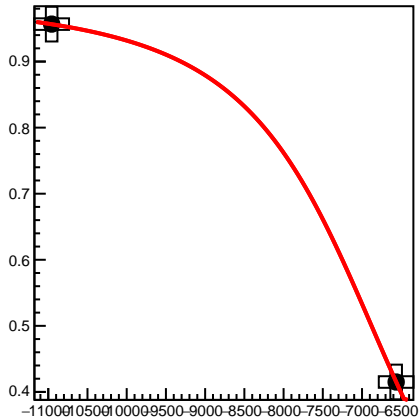
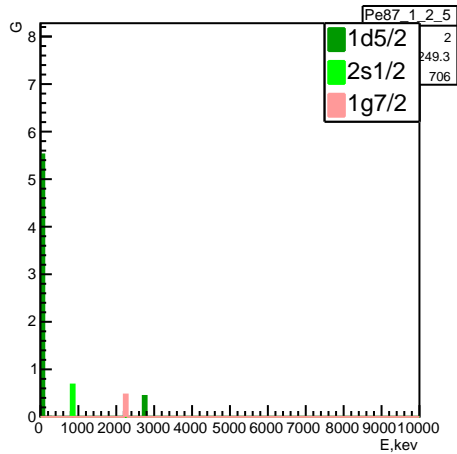
SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10225.8 1d5/2 0.918667 1.14933

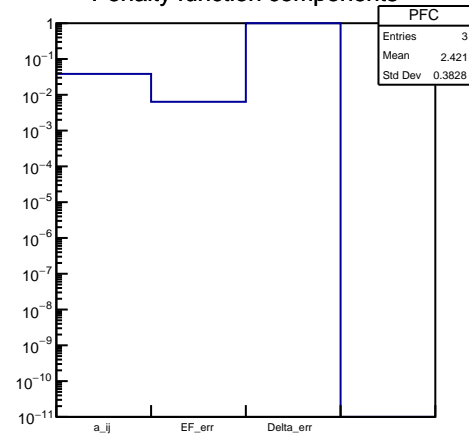
-6620.8 2s1/2 0.415 0.85

-12610.4 1g7/2 0.526875 0.06375

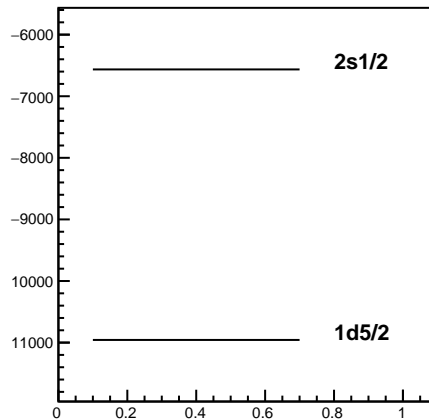
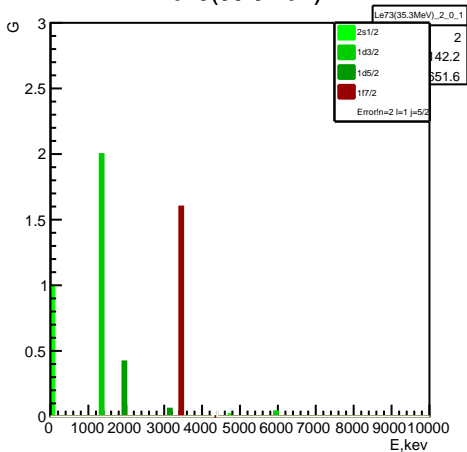
Pe87



Penalty function components



Le73(35.3MeV)



Experiment: Pe87 (4) Le73(35.3MeV) (8)

proton transfer

p separation energy A:11585, A+1: 2748.84

 $E_F: -6878.61 \pm 5200.51 \text{ keV}$ $\Delta: 1822.88 \pm 22280.2 \text{ keV}$

penalty: 0.348234

SPE,keV nlj OCC $\frac{G^+ + G^-}{2J+1}$

-10956.9 1d5/2 0.956667 1.07333

-6564.82 2s1/2 0.415 0.85