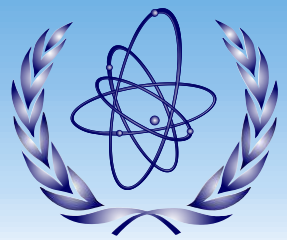

International Atomic Energy Agency

REACTION Sum (WP2018-28)

Naohiko Otsuka

IAEA Nuclear Data Section

Question 1: $^{nat}Pt(n,x)^{195m}Pt$

Elemental cross section (cross section for natural sample)

$\sigma[^{nat}Pt(n,x)^{195m}Pt]$

→(78-PT-0(N,X)78-PT-195-M,,SIG)

Isotopic cross section (below $^{196}Pt(n,2n)^{195m}Pt$ threshold)

$\sigma[^{195}Pt(n,x)^{195m}Pt] \sim \sigma[^{nat}Pt(n,x)^{195m}Pt] / a(^{195}Pt)$

→(78-PT-195(N,INL)78-PT-195-M,,SIG)

Above $^{196}Pt(n,2n)^{195m}Pt$ threshold

$\sigma[^{nat}Pt(n,x)^{195m}Pt] / [a(^{195}Pt)+ a(^{196}Pt)]$

→?

Question 1: $^{nat}Pt(n,x)^{195m}Pt$ (Cont)

$\sigma[^{nat}Pt(n,x)^{195m}Pt]$ / $[a(^{195}Pt)+ a(^{196}Pt)]$

→?

Option 1: Use of the modifier FCT (divided by something)

(78-PT-0(N,X)78-PT-195-M,,SIG,,FCT)

with free text explanation about FCT

Option 2: Use of a new modifier XX (divided by sum of isotopic abundances)

(78-PT-195(N,INL)78-PT-195-M,,SIG,,XX)+

(78-PT-196(N,2N)78-PT-195-M,,SIG,,XX)

Question 2: σ[^{nat}Fe(n,γ+x)] for ~412 keV gamma

σ[^{nat}Fe(n,γ+x)] for ~412 keV gamma productions originated from

- ^{54}Fe(n,n') ^{54}Fe (411.5 keV)
- ^{56}Fe(n,2n)^{55}Fe (411.7 keV)

Option 1: Treat as an *inclusive* gamma production cross section

(26-FE-0(N,X)0-G-0,PAR,DA)

Option 2: Use modifier A (multiplied by isotopic abundance)

(26-FE-54(N,INL)26-FE-54,PAR,DA,G,A)

+(26-FE-56(N,2N)26-FE-55,PAR,DA,G,A)