COMMARA-2.0 ^{239}Pu

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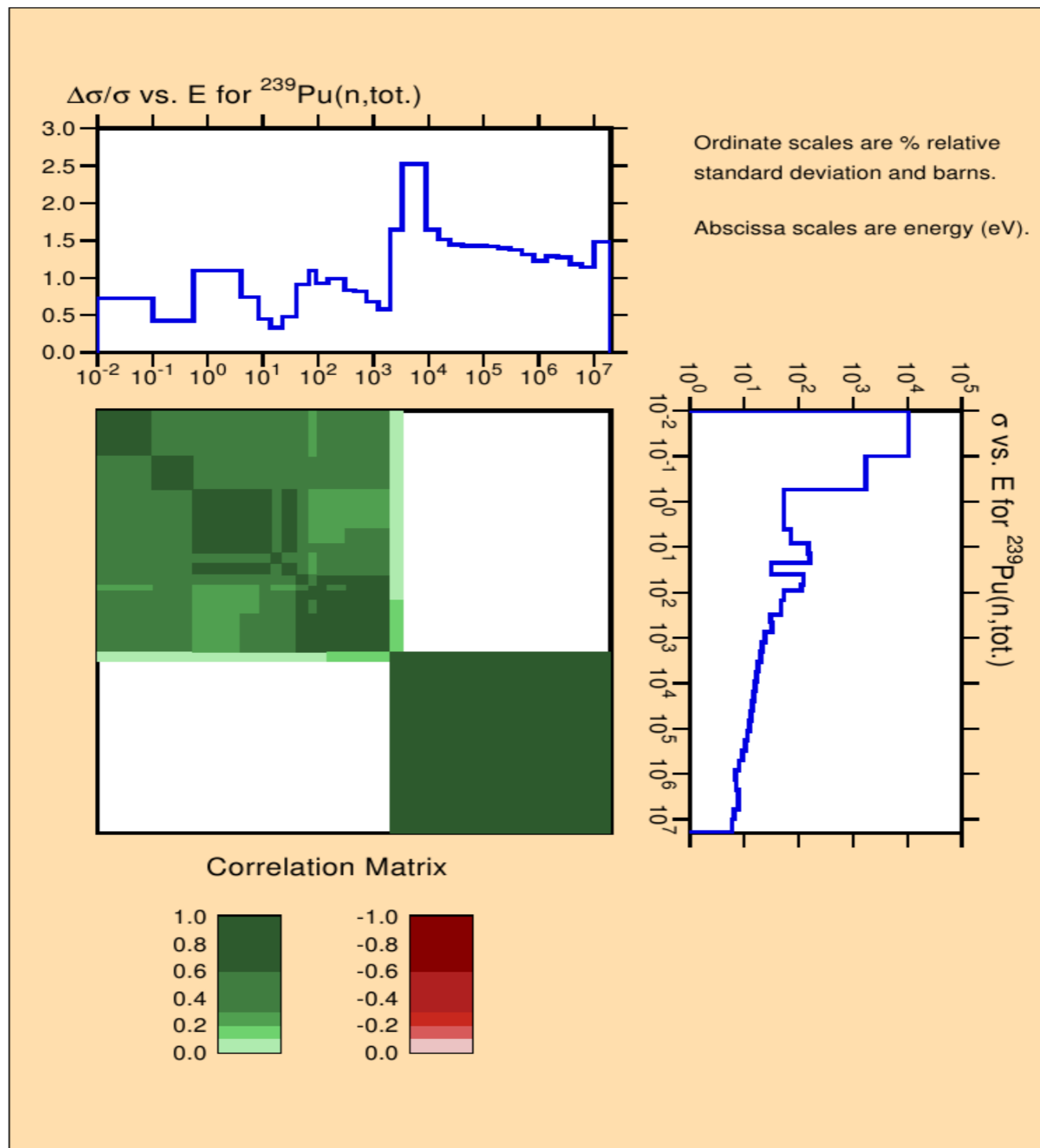
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COMMARA reaction channels

COMMARA is a library of covariance data in processed format based on ENDF/B-VII.0. Resonance region: SAMMY-ORNL; fast: GNASH-LANL.
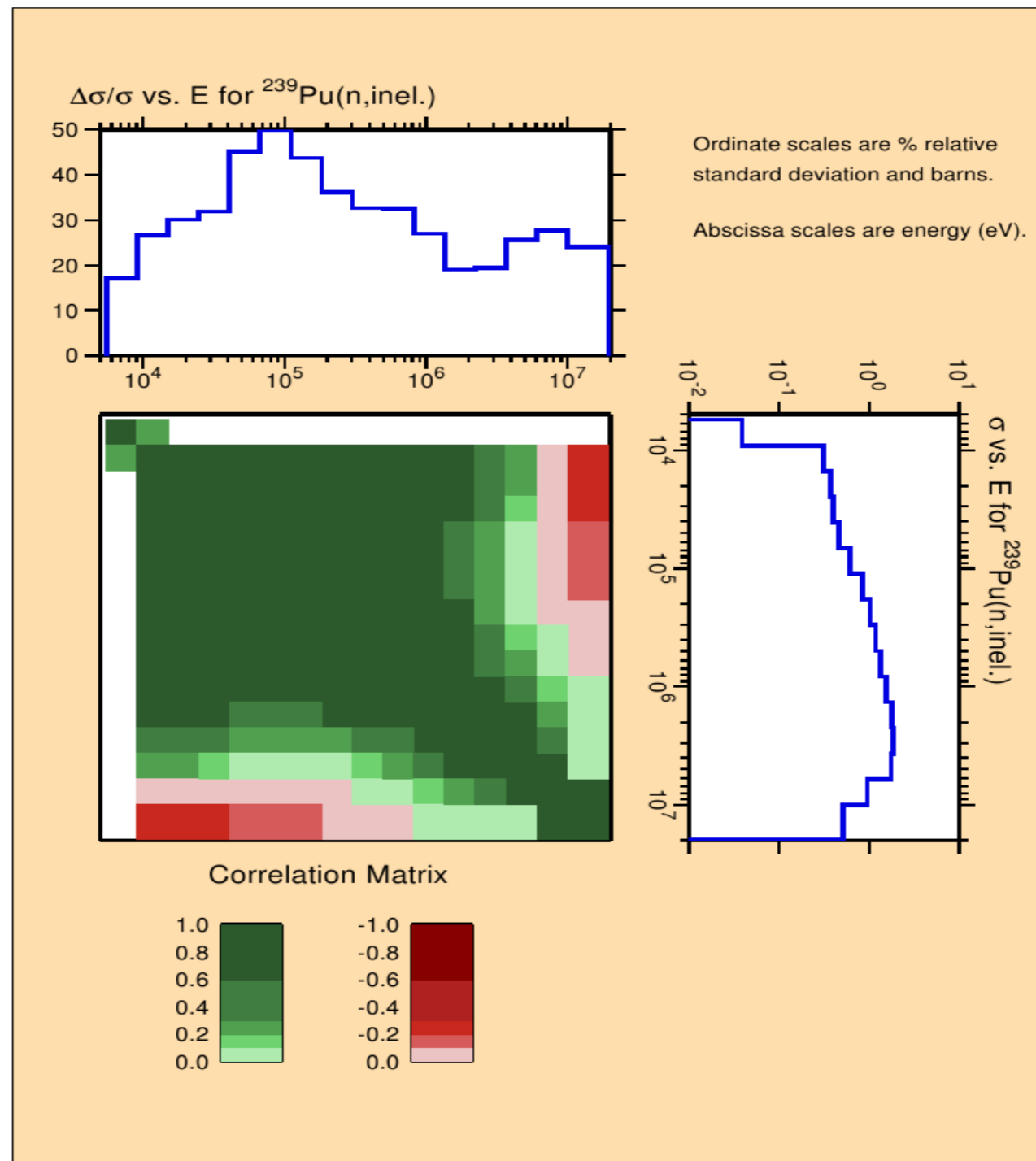
33-group energy structure from 0.1eV to 19.6 MeV.

For the ^{239}Pu, the following reactions are present: (n,tot), (n,total ν), (n,prompt ν), (n,el), (n,f), (n,γ), (n, inel), (n,2n), (n,3n), (n,4n), (n, PFNS)
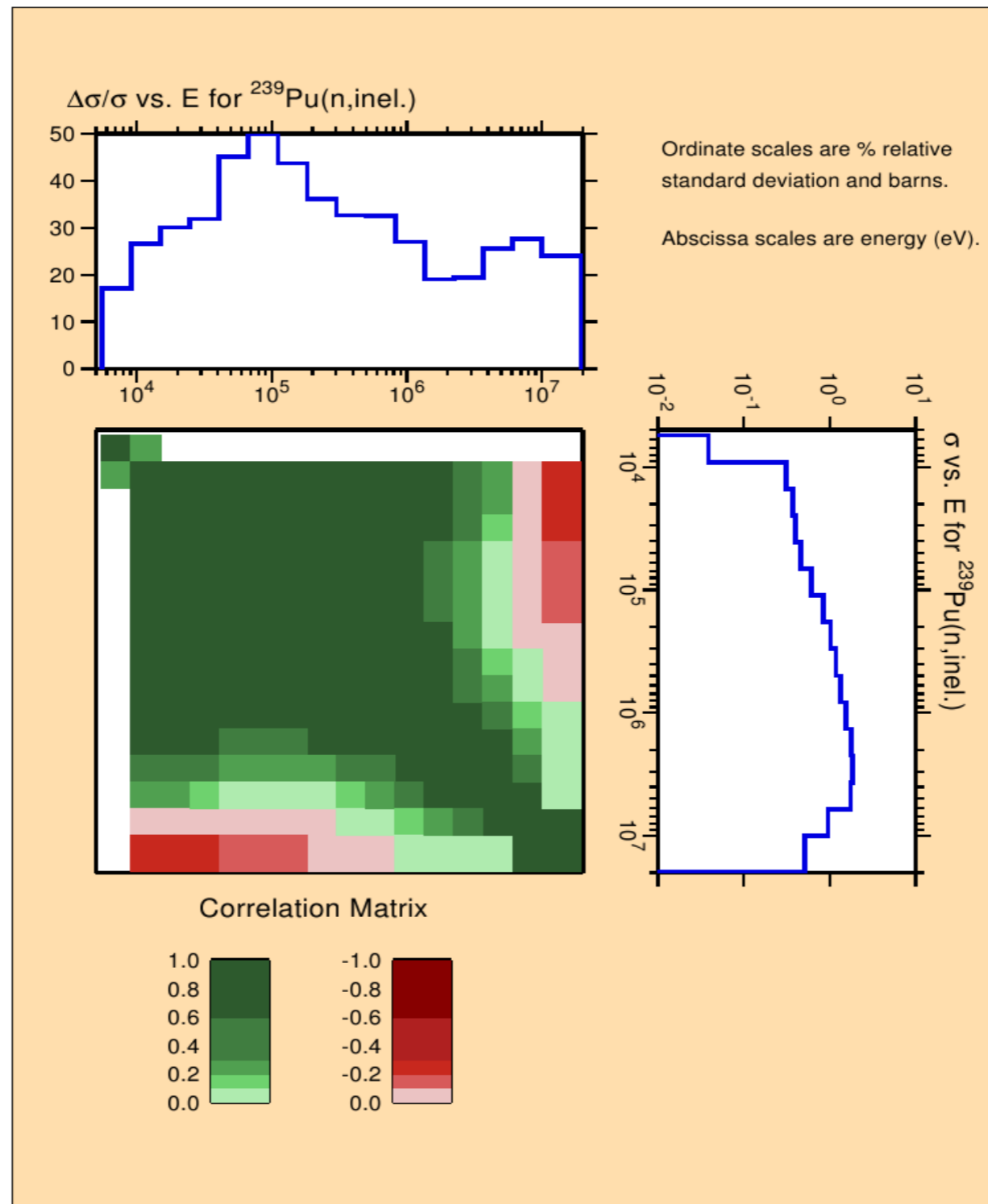
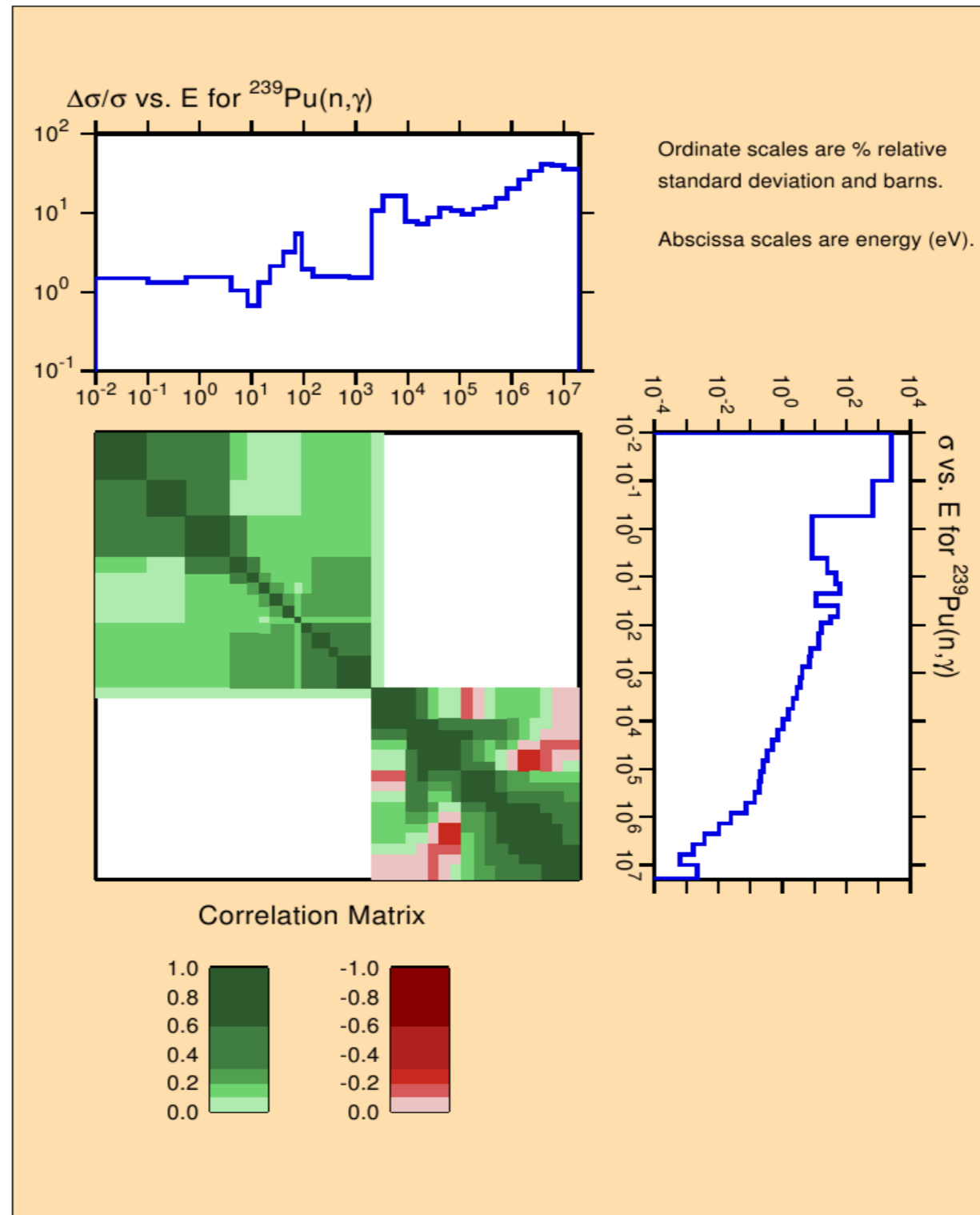Covariances also present for many cross-reactions.

^{239}Pu(n,tot)

^{239}Pu(n,elastic)

^{239}Pu(n,inel)
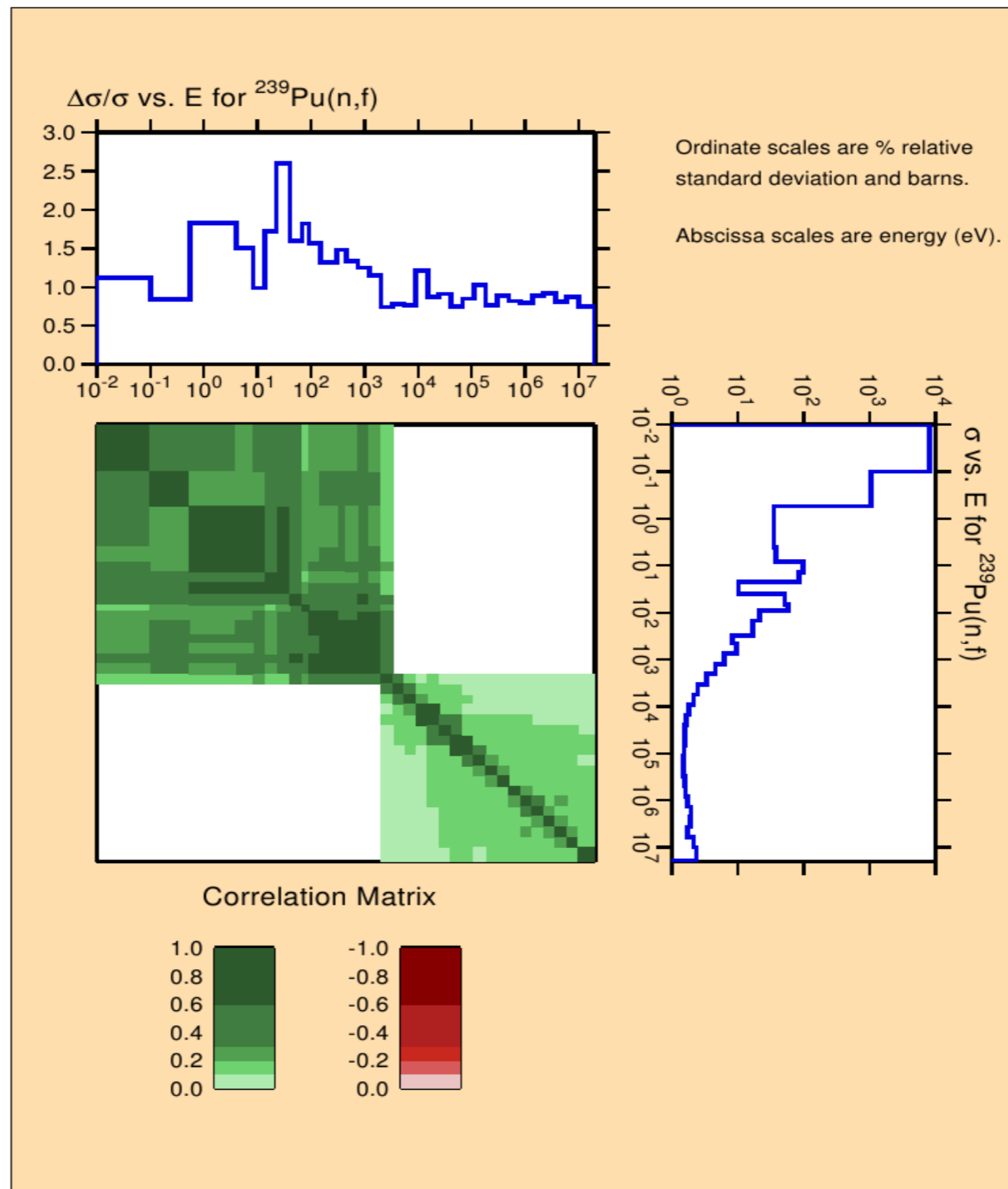

$\Delta\sigma/\sigma$ vs. E for ^{239}Pu(n,inel.)

Ordinate scales are % relative standard deviation and barns.

Abscissa scales are energy (eV).

σ vs. E for ^{239}Pu(n,inel.)

Correlation Matrix

^{239}Pu(n,γ)

^{239}Pu(n,f)

^{239}Pu(n,prompt ν)

$\Delta\nu/\nu$ vs. E for ^{239}Pu(prompt ν)

Ordinate scales are % relative standard deviation and nu-bar.

Abscissa scales are energy (eV).

ν vs. E for ^{239}Pu(prompt ν)

Correlation Matrix

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^{239}Pu(n,total ν)

$\Delta\nu/\nu$ vs. E for ^{239}Pu(total ν)

Ordinate scales are % relative standard deviation and nu-bar.

Abscissa scales are energy (eV).

ν vs. E for ^{239}Pu(total ν)

Correlation Matrix

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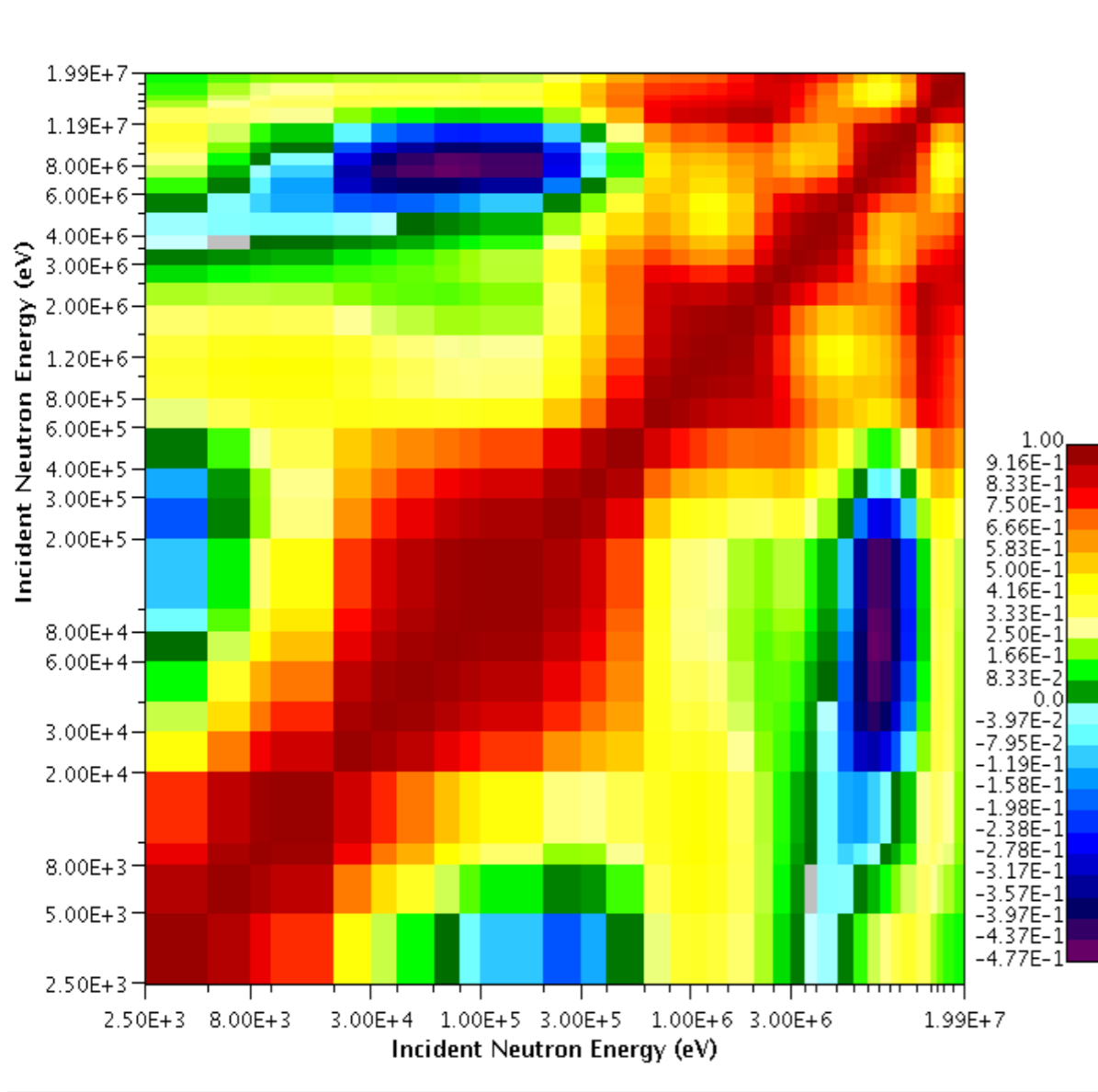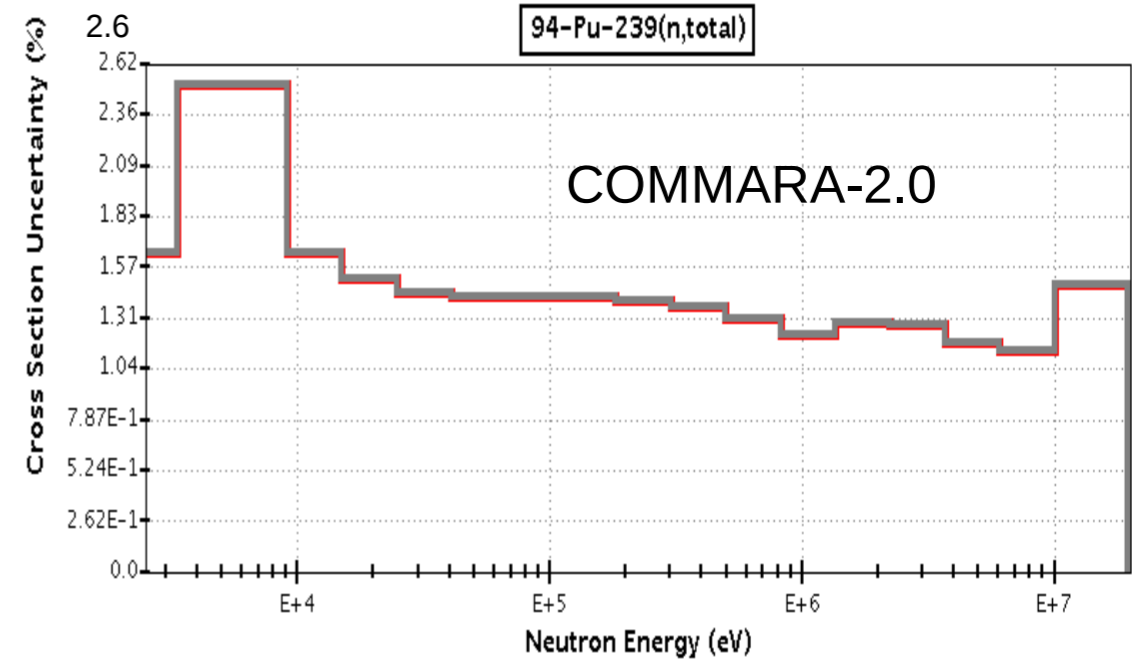# ^{239}Pu(n,PFNS)

Comparisons to VII.1

Only (n,f) uncertainties changed in ENDF/B-VII.1
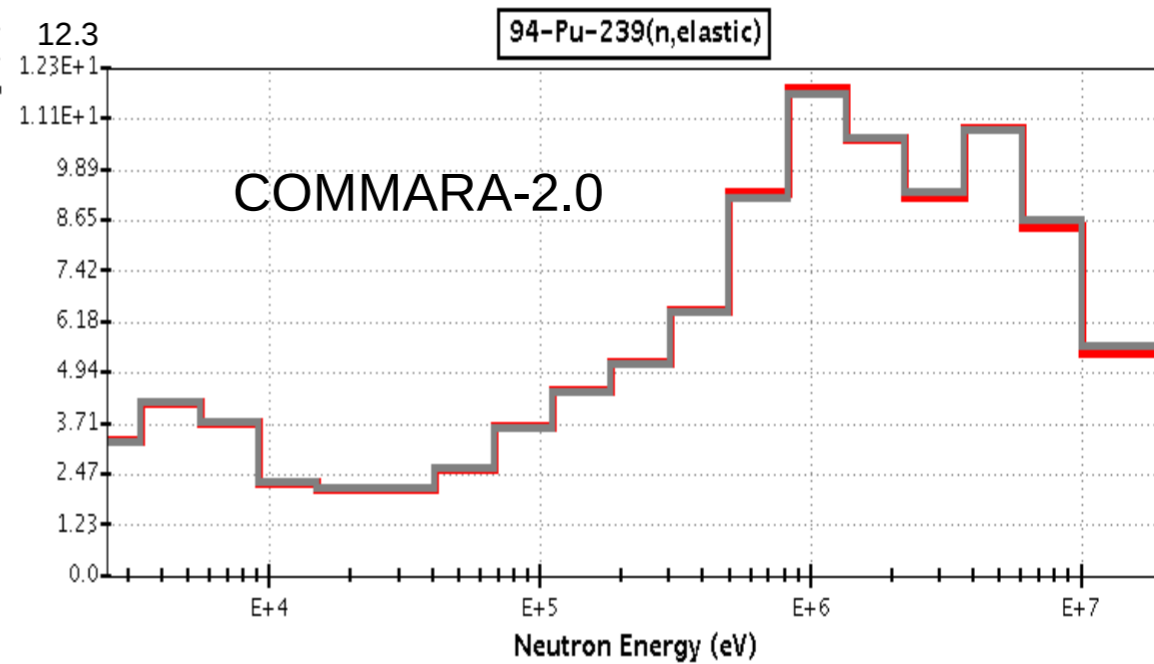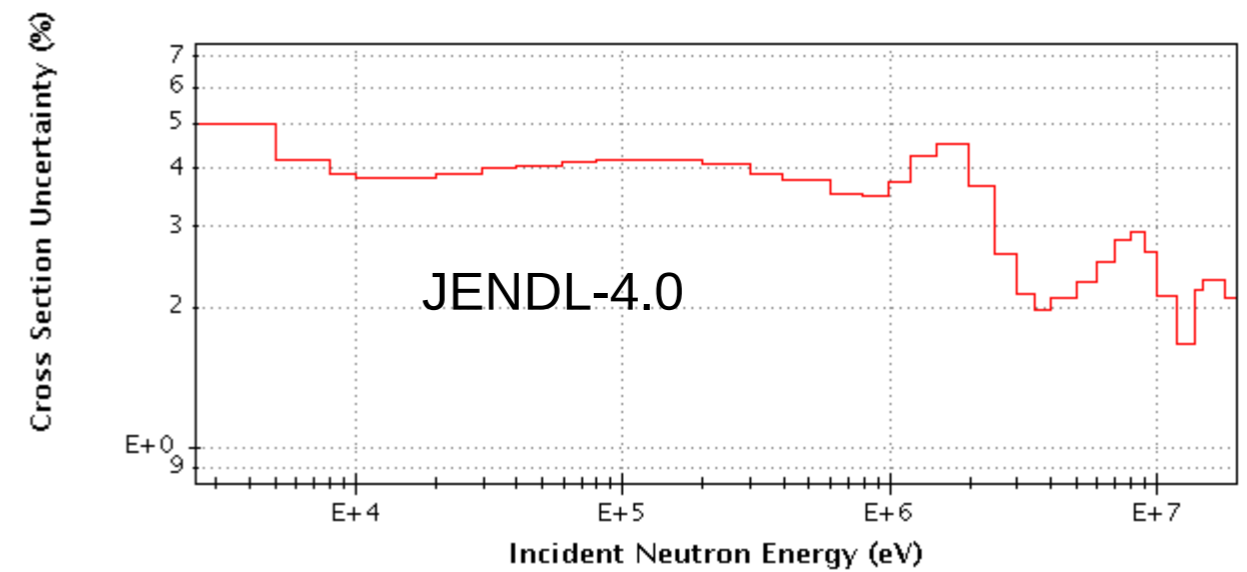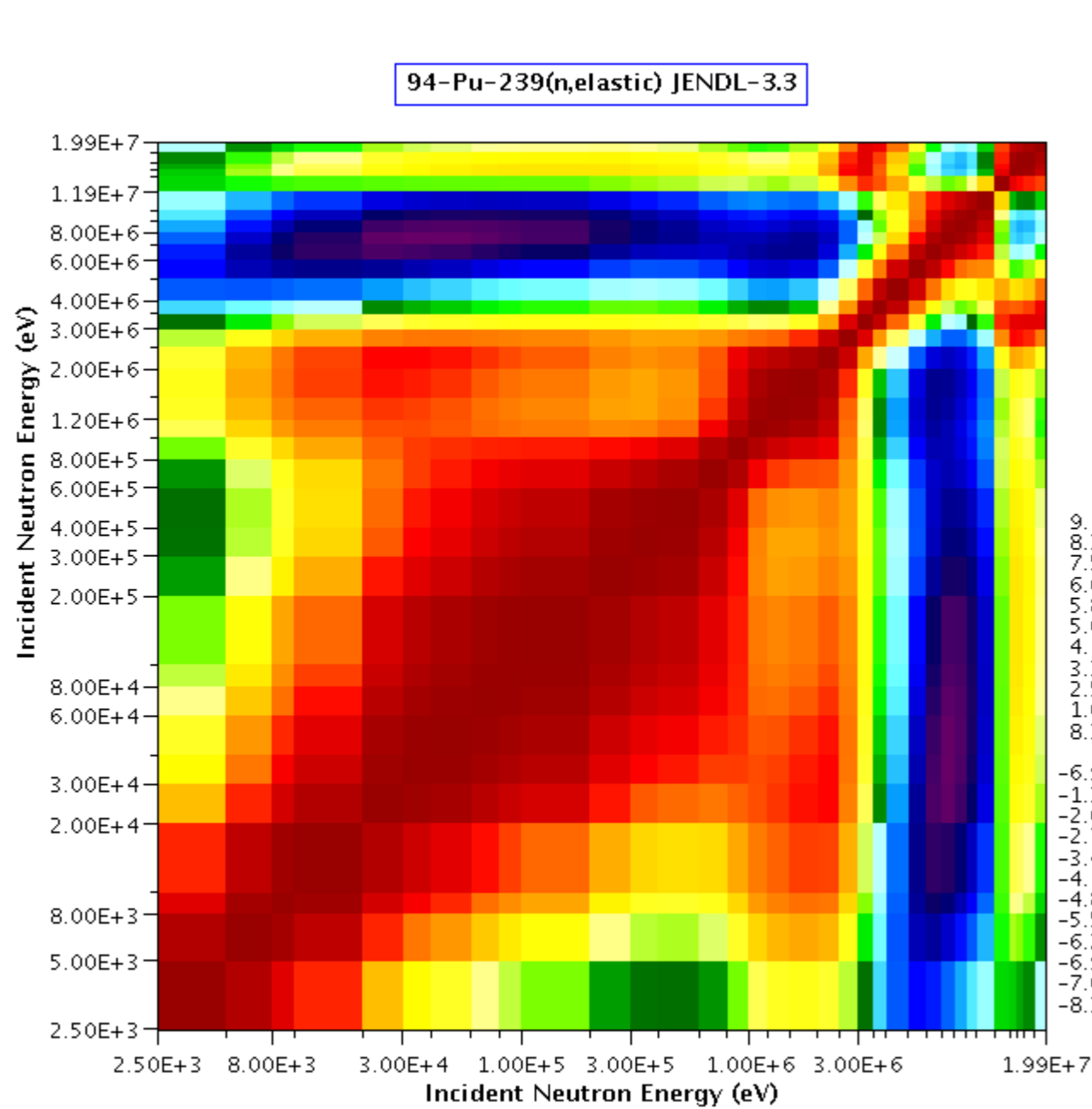

94-Pu-239(n,total fission)
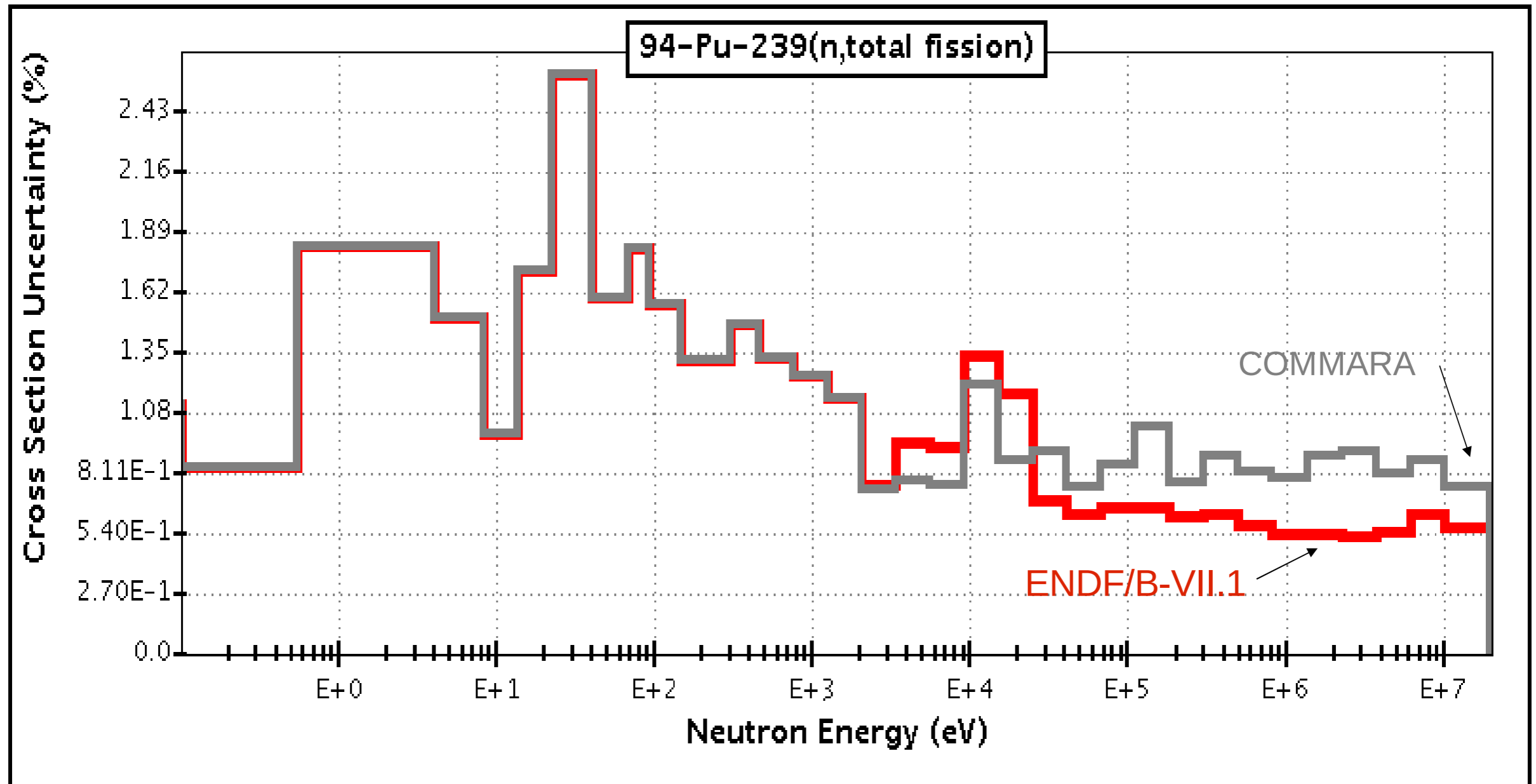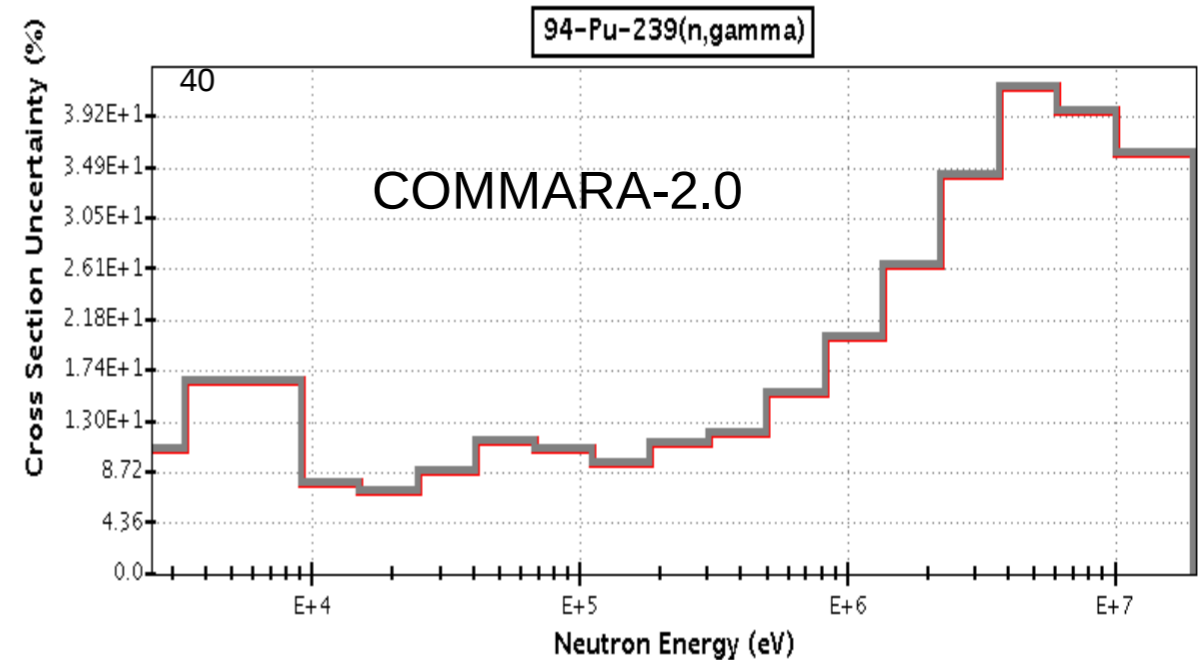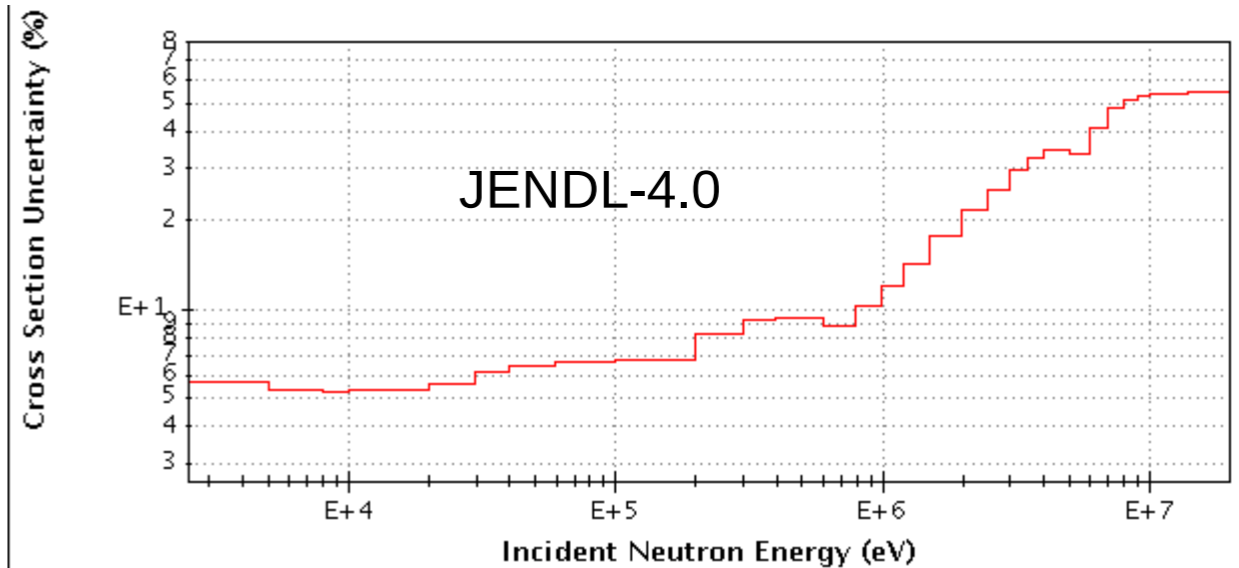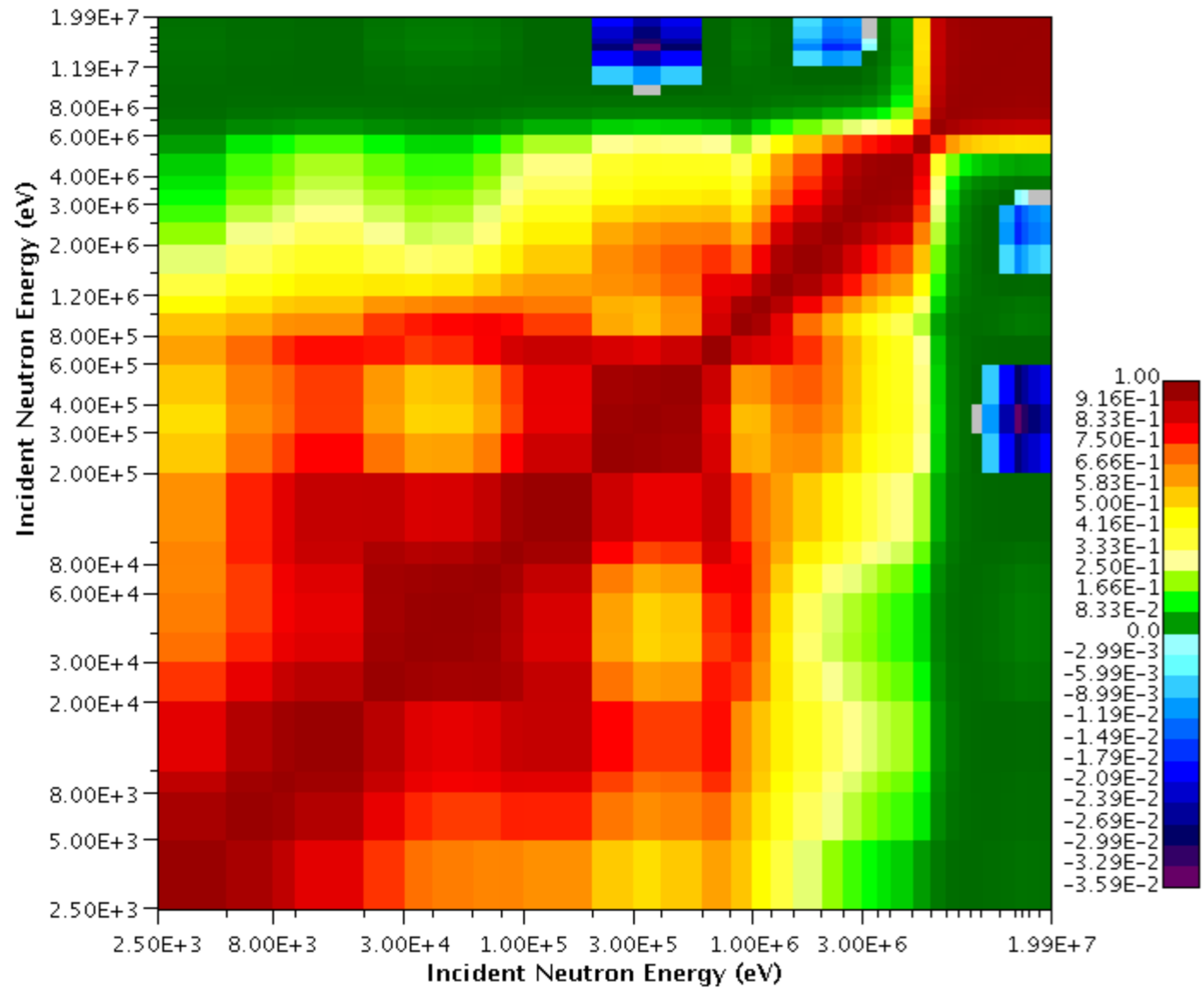
COMMARA

ENDF/B-VII.1

(n,tot) comparison to JENDL-4.0

JENDL-4.0

JENDL-4.0

94-Pu-239(n,total)

COMMARA-2.0

(n,el) comparison to JENDL-4.0

94-Pu-239(n,elastic) JENDL-3.3

JENDL-4.0

JENDL-4.0

94-Pu-239(n,elastic)

COMMARA-2.0

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(n,γ) comparison to JENDL-4.0

94-Pu-239(n,gamma) JENDL-3.3

JENDL-4.0

94-Pu-239(n,gamma)

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JENDL-4.0

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Summary

- COMMARA-2.0 released Spring 2011

- ^{239}Pu covariance data mostly as submitted for ENDF/B-VII.1 as difference in central values from VII.0 were within uncertainty limits.

- Only significant difference to ENDF/B-VII.1 is in (n,f).