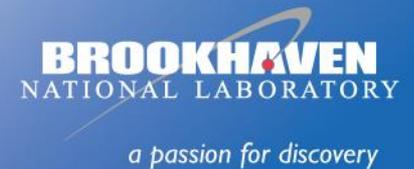


Continuous Data in ENSDF

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Motivation

- ENSDF and XUNDL can't deal with continuous radiation data following decay.
- That is, gamma, electron and neutron radiation which is continuous by nature or measured with low-resolution, high-efficiency detectors.
- The continuous radiation may be used in the radiation listing and needed in the energy balance, for instance delayed neutrons, or may be simply miscellaneous or document data.

What numbers are needed in ENSDF

a) The spectrum, at its most general:

$$(E_i, \Delta E_i, I_i, \Delta I_i)$$

b) Parameters that indicate radiation type and if this spectrum should be included in Radlist or not.

If to be included in Radlist, electron and beta should be normalized to 1.

One possibility, use the 'R' character for continuous radiation, and 'SR' to specify radiation type and if it will be used in Radlist:

```
94SR SR Neutron, Radlist
94SR CR Spectrum measured by 2000XX00 using...
94SR CR E$From Time of Flight.
94SR CR I$Spectrum normalized to 1.
94SR R (10,10,0.0010),(20,10,0.0020),(30,10,0.0040),(40,10,0.0020),
94SR R (50,10,0.0005),(60,10,0.0010),(70,10,0.0020),(80,10,0.0015),
```

```
94SR SR Electron, document
94SR CR Spectrum measured by 2000XX00 using superconducting magnet...
94SR CR E$From GEANT simulation, DE about 40 keV.
94SR CR I$Spectrum normalized to 1.
94SR R (10,10,0.0010,1),(20,10,0.0015,2),(30,10,0.0020,1),(40,10,0.0030,5),
94SR R (50,10,0.0040,2),(60,10,0.0045,2),(70,10,0.0050,1),(80,10,0.0060,5),
```

Issues to explore:

What will be the best way of representing continuous radiation taking into account FMTCHK, Java-NDS, NuDat?

We should probably start with XUNDL to gain experience with the new format and then slowly incorporate it in ENSDF.