Release notes for ENDF/B Development e-031_Ga_000 evaluation

October 13, 2016

- `fudge-4.0` Warnings:

  1. Mislabled emitted particle
     Reading ENDF file: ../e-031_Ga_000.endf (Error # 0): ZAP messed up

     ```
     WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0
     ```

  2. FIXME: Generic fudge unimplemented message
     reaction label 1: e- + Ga + gamma [bremsstrahlung] / Product: e- (Error # 0): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for energyLoss type data
     ```

  3. FIXME: Generic fudge unimplemented message
     reaction label 2: e- + Ga [excitation] / Product: e- (Error # 0): Generic unimp (c)

     ```
     WARNING: Checking not yet implemented for energyLoss type data
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: e- + Ga [large angle Coulomb scattering] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!
     ```

  2. Calculated and tabulated thresholds don't agree
     reaction label 1: e- + Ga + gamma [bremsstrahlung] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!
     ```

  3. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + Ga [excitation] / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!
     ```

  4. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e- + Ga1s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10331. eV!
     ```

  5. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + e- + Ga2s1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1290.7 eV!
     ```

  6. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + e- + Ga2p1/2 / Cross section: (Error # 0): Threshold mismatch

     ```
     WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1150.4 eV!
     ```

  7. Calculated and tabulated thresholds don't agree
     reaction label 6: e- + e- + Ga2p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1122. eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 7: e- + e- + Ga3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 157.75 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 8: e- + e- + Ga3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 111.01 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + e- + Ga3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 107.28 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + e- + Ga3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.37 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + e- + Ga3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 26.87 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + e- + Ga4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 11.69 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + e- + Ga4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5. eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + e- + Ga4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.88 eV!
```

- `xsectplotter` Warnings:

  1. Mislabled emitted particle
     Error: ZAP messed up

```
stderr while processing crossSection

      WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0
... [2 more lines]
```