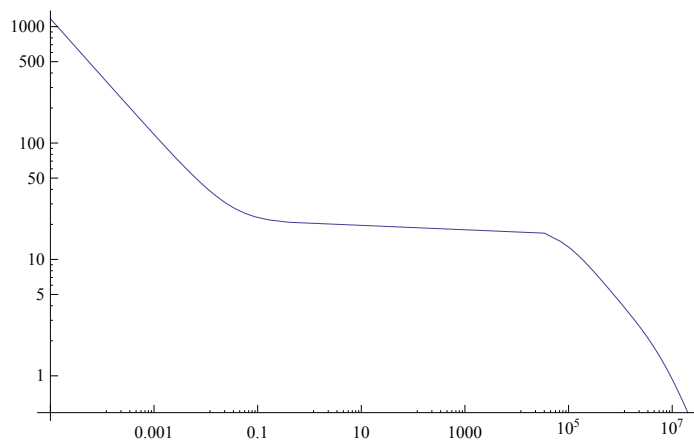


```

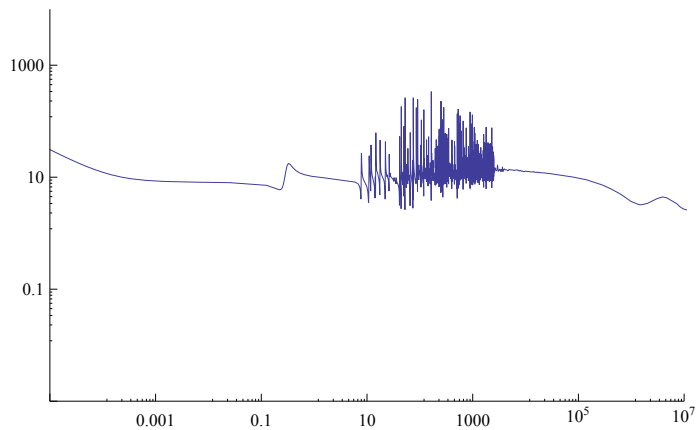
Clear["Global`*"];
SetDirectory["C:\\Users\\Documents\\n-ENDF-VII0.endf\\"];
NF = 0;
callENDF[filename_] := Module[{myline, zahler, XSHelastic},
  EndfStream = OpenRead[filename];
  myline = ""; XSHelastic = {};
  myline = Read[EndfStream, String];
  zahler = 0;
  While[myline ≠ "EndOfFile", myline = Read[EndfStream, String];
    If[myline ≠ "EndOfFile",
      XSHelastic = Append[XSHelastic, ImportString[myline, "CSV"][[1]]];
      zahler = zahler + 1;
    ]
  ]; NF = zahler; XSHelastic
]

H001elastic = callENDF["n-001_H_elasticInt"];
ListLogLogPlot[H001elastic, Joined → True]

```



```
Pu094elastic = callENDF["n-094_Pu_239_elasticInt"];  
Pu094inelastic = callENDF["n-094_Pu_239_inelasticInt"];  
Pu094ngamma = callENDF["n-094_Pu_239_ngammaInt"];  
Pu094fission = callENDF["n-094_Pu_239_fissionInt"];  
Pu094total = callENDF["n-094_Pu_239_totalInt"];  
ListLogLogPlot[{Pu094elastic}, Joined → True,  
  PlotRange → {{10-5, 107}, {10-3, 104}}]
```

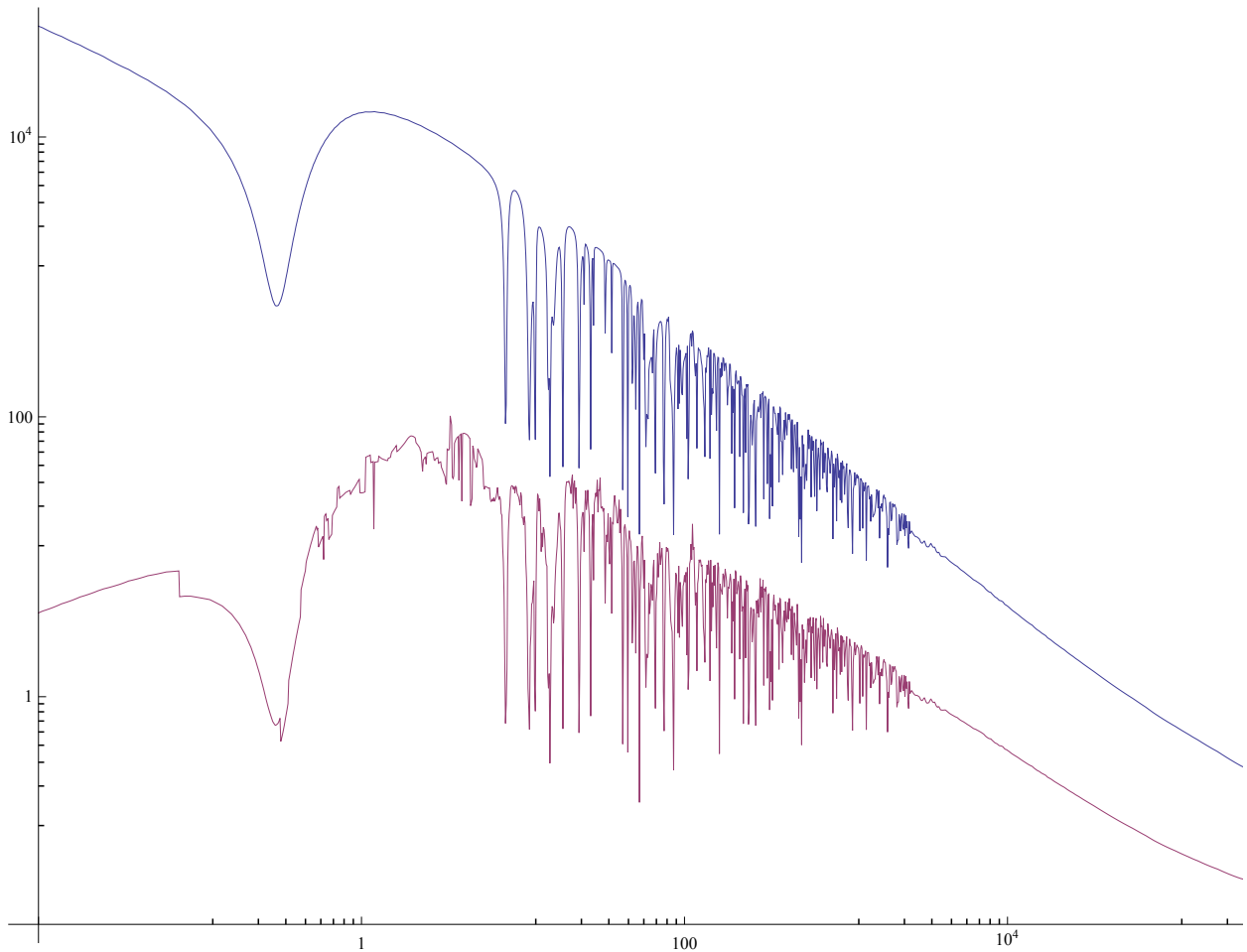


```

XSPuElastic = Interpolation[Pu094elastic, InterpolationOrder → 1];
XSHElastic = Interpolation[H001elastic, InterpolationOrder → 1];
XSPuTotal = Interpolation[Pu094total, InterpolationOrder → 1];
XSPuAbsorb[e1_] := XSPuTotal[e1] - XSPuElastic[e1];

escape[e1_] := NIntegrate[
  XSPuAbsorb[e2] / (e2 * (XSPuAbsorb[e2] + XSHElastic[e2])), {e2, e1, 10^7}];
phis[e1_] := 10^6 / ((XSPuAbsorb[e1] + XSHElastic[e1]) * e1) * Exp[-1 * escape[e1]];
phist[e1_] := 10^6 / ((XSPuAbsorb[e1] + XSHElastic[e1]) * e1);
LogLogPlot[{phist[s], phis[s]}, {s, 10^-2, 10^7},
  PlotRange → All, PlotPoints → 1000, MaxRecursion → 1]

```



```
LogLogPlot[{escape[s]}, {s, 10^-2, 10^7},
  PlotRange -> All, PlotPoints -> 1000, MaxRecursion -> 1]
```

```
NIntegrate::nlim: e2 = s is not a valid limit of integration. >>
```

NIntegrate::nlim: e2 = s is not a valid limit of integration. >>

NIntegrate::nlim: e2 = s is not a valid limit of integration. >>

General::stop: Further output of NIntegrate::nlim will be suppressed during this calculation. >>

```
NIntegrate::ncvb: NIntegrate failed to converge to prescribed accuracy after 9 recursive bisections in e2 near {e2} = {-0.009527108698264896702312398701906204223632812500000000000000000000}. NIntegrate obtained -20.8227 and 25.72666145756259` for the integral and error estimates. >>
```

