

VII.G. OTHER OUTPUT FILES

Often it is useful to have the unbroadened cross section values in a separate file rather than embedded within the SAMMY.LPT file. To obtain such a file, include the phrase

```
PUT UNBROADENED CROSS sections into plot file
```

into the command section of the INPut file. This will cause two or three files to be generated, SAMMY.UNB, SAMUNB.DAT, and possibly SAMUNX.DAT.

File SAMMY.UNB is an ODF plot file (Section VII.C) that contains two or more sections. Section 1 contains the energy in eV and section 2 contains the cross section.

When more than one type of cross section is used for the particular calculation, then section 3, 4, etc., contain the other cross sections. For example, in the case when the data type (card set 8 of the INPut file) is “CAPTure” and multiple-scattering corrections are requested, then sections 2 through $L_{\text{max}} + 1$ will contain Legendre coefficients for $L = 0$ through $L_{\text{max}} - 1$ respectively, section $L_{\text{max}} + 2$ will contain the total cross section, and $L_{\text{max}} + 3$ will contain the capture cross section. When the data type is “INTEGral quantities” for a fissile nuclide, section 2 will be fission and section 3 absorption.

Caution: Use of this option with “GENERATE PLOT FILE Automatically” may result in confusion for the SAMMY.PLT file. Also, use of the two commands together will cause the SAMMY.UNB file (and SAMUNB.DAT and SAMUNX.DAT) to be written in terms of the final parameter values rather than the initial values.

File SAMUNB.DAT is an ASCII file in TWENTY format (Section VI.C.1) with three columns. The first is energy in eV, the second is the cross section. (When more than one type of cross section is used, it is the final type in the paragraph above that appears in this position.) The third column is the value 0.1; this number is a placeholder for the uncertainty on this cross section, included because it is sometimes desirable to use this file as dummy “experimental” data for other SAMMY runs.

File SAMUNX.DAT is another ASCII file, in CSISRS format (1P7G11.4). This file appears only when more than one type of cross section is used in the calculation. The file contains energy in column 1 and the cross sections in the remaining columns, in the order as described above.¹

For all of these files, negative-energy data points and cross sections may appear in the file. These arise from the velocity-grid requirements for Doppler broadening, as discussed in Section III.B.1.

¹ Prior to Version 7.1.4, placeholders for the uncertainty on the cross section(s) were included in SAMUNX.DAT; these have now been eliminated because they serve no useful purpose.