

## VII.C. PLOT OUTPUT

The output file SAMMY.ODF is in the ORELA DATA FORMAT [JC78] and is intended for use with the plotting program FORODF to produce plots of the results of SAMMY calculations. Table VII C.1 shows what is stored in each section of the SAMMY.ODF file, for the case when the experimental data are either total cross section or transmission. Table VII C.2 describes the ODF file for other types of energy-differential data, and Table VII C.3 shows the SAMMY.ODF file for angular-distribution (angle- and energy-differential) data. In the case of angular-distribution data, when the input data are provided in an ASCII file, SAMMY will produce a second output ODF file (SAMMY.DAT) that contains the experimental values; if the input data are given in an ODF file, the SAMMY.DAT file is not generated. A description of the SAMMY.DAT file is shown in Table VII C.4.

For computer systems using other plotting routines, SAMMY also provides a “generic” binary file containing the same information as that in the ODF file. See Section X.I for details on the use of this SAMMY.PLT file.

**Table VII C.1. Sections of the ODF file generated by SAMMY, for transmission or total cross-section data**

Sect. No.	Contents and units
1	Energy (Units are as specified by input command. If not specified, then units are eV if appropriate, otherwise keV)
2	Experimental cross section (barns)
3	Absolute uncertainty in experimental cross section (barns)
4	Zeroth-order theoretical cross section as evaluated by SAMMY (barns)
5	Final theoretical cross section as evaluated by SAMMY (barns)
6	Experimental transmission (dimensionless)
7	Absolute uncertainty in experimental transmission
8	Zeroth-order theoretical transmission as evaluated by SAMMY
9	Final theoretical transmission as evaluated by SAMMY
10 <sup>a</sup>	Theoretical uncertainty on section 4 if data were total cross section, or on section 8 if data were transmission
11 <sup>a</sup>	Theoretical uncertainty on section 5 or section 9
12 <sup>b</sup>	Adjusted energy initially, when $t_0$ and $L_0$ are to be varied. See Section III.E.8 of this report
13 <sup>b</sup>	Adjusted energy finally, when $t_0$ and $L_0$ are to be varied. See Section III.E.8 of this report

<sup>a</sup> These sections are filled only if the phrase “INCLUDE THEORETICAL errors” occurs in the INPut file (Table VI A1.2).

<sup>b</sup> These sections are filled only if  $t_0$  and  $L_0$  are to be varied.

**Table VII C.2. Sections of the ODF file generated by SAMMY, for energy-differential data that are neither transmission nor total cross section**

Sect. No.	Contents and units
1	Energy (Units are as specified by input command. If not specified, then units are eV if appropriate, otherwise keV)
2	Experimental cross section (barns)
3	Absolute uncertainty in experimental cross section (barns)
4	Zeroth-order theoretical cross section as evaluated by SAMMY (barns)
5	Final theoretical cross section as evaluated by SAMMY (barns)
6 <sup>a</sup>	Theoretical uncertainty on section 4 (barns)
7 <sup>a</sup>	Theoretical uncertainty on section 5 (barns)
8 <sup>b</sup>	Adjusted energy initially, when $t_0$ and $L_0$ are to be varied. See Section III.E.8 of this report
9 <sup>b</sup>	Adjusted energy finally, when $t_0$ and $L_0$ are to be varied. See Section III.E.8 of this report

<sup>a</sup> These sections are filled only if the phrase "INCLUDE THEORETICAL errors" occurs in the INPut file (Table VI A1.2).

<sup>b</sup> These sections are filled only if  $t_0$  and  $L_0$  are to be varied.

**Table VIIC.3. Sections of SAMMY.ODF when data are angular distributions (energy- and angle-differential elastic scattering or reaction data)**

Sect. No.	Contents and units
1	Energy (eV)
2	Zeroth-order theoretical cross section for the first angle (barns)
3	Final theoretical cross section for the first angle (barns)
4	Zeroth-order theoretical cross section for the second angle (barns)
5	Final theoretical cross section for the second angle (barns)
...	
$2n$	Zeroth-order theoretical cross section for the $n$ th angle (barns)
$2n + 1$	Final theoretical cross section for the $n$ th angle (barns)

**Table VIIC.4. Sections of the ODF file SAMMY.DAT generated by SAMMY when data are angular distributions**

Sect. No.	Contents and units
1	Energy (eV)
2	Experimental cross section for the first angle (barns)
3	Uncertainty on experimental cross section for the first angle (barns)
4	Experimental cross section for the second angle (barns)
5	Uncertainty on experimental cross section for the second angle (barns)
...	
$2n$	Experimental cross section for the $n$ th angle (barns)
$2n + 1$	Uncertainty on experimental cross section for the $n$ th angle (barns)