SATAN COMMAND LISTS

1. Invoking a command list

Satan commands and a few additional statements (see below) may be invoked by the command SEXECUTE from a **S**ATAN **Com**mand list, stored in a file, denoted by the SCOM qualifier, e.g. SEXECUTE INPUT.SCOM FILE39 / PATH(D:\RUN64). The default qualifier SCOM may be omitted. If the command list is stored in a file with another qualifier, the full file name must be given.

The command SEXECUTE is also invoked by dropping an SCOM file from the WINDOWS EXPLORER in the SATAN dialog window by the mouse.

A common pre-selection of the path or a list of paths for SCOM files to be executed may be performed by the command SET / EXECPATH(…). SATAN will search in this list for the file name indicated in the SEXECUTE command in the sequence they appeared in the EXECPATH parameter of the SET command..

Example:

```
SET / SEXECPATH(\MUELLER\EX1,\MUELLER.EX2)
```

A command list may call another one, and so on, up to any level..

2. Local symbolic parameters

A SATAN command list may contain up to 9 local symbolic parameters (e.g. used as parameters of commands), specified as **&1.**, **&2.**, …, **&9.** , respectively. They are substituted by the character strings given in the corresponding positions of the EXEC command. The user is prompted if a symbolic parameter is encountered having no value.

3. Support of global parameters

Furthermore, any command substring may be substituted by a global parameter preceded by an ampersand "**&**", and followed by a period "**.**" As delimiter. Global parameters are created by the commands IPAR and IPOPER, or by the Macro PARDCL in the user-supplied analysis procedure. Global parameters and local parameters may be nested up to any level, e g. **&CALIB(&1.).** , **&A&1..**.The values of the parameters are inserted in several passages, starting from the innermost level.

4. Access to numerical results of SATAN commands

All numerical results of the last command are accessible by the command OIPAR, which copies these values to the array $R(l,c). l and c are integer numbers which correspond to the line and the sequence of the numerical value in the output of the preceding command, just as it appears on the dialog window. $R is also filled when the output on the dialog window is suppressed by the GSET / OUTPUT(SHORT) option. Values from the array $R(l,c) may be used like values of global parameters. This feature makes the numerical output of all SATAN commands useable for further operations.

5. Elements of the command language

All SATAN commands may be used within a command list. Additionally, the following special statements are supported:

LABEL string defines a label

STOP or **STOP string** stops the command list and leaves the actual level after prompting; evtl. defines a label

RETURN leaves the current command list and returns one level up to the calling procedure or, by return from the first level, to the command prompt. No prompting.

END leaves the current command list and returns to the command prompt from any level without prompting.

SELECT(string)

Define the beginning of a select group. The string eventually given as argument is evaluated and saved. The statements listed below control the flow of execution within a select group; commands between these statements are called “units”.

```
        WHEN(string)
                Statement
                Statement
        …
```

Specify the unit to be executed if the string given as argument matches the string of the corresponding SELECT statement.

```
        OTHERWISE
                Statement
                Statement
                …
```

Specify the unit to be executed when every test of the preceding WHEN statements fails.

ENDSELECT

Terminate the select group

Example:

```
        SELECT(&1.)
                WHEN(FILE1)
                        …
                WHEN(FILE2)
                        …
                OTHERWISE
                        PUT NO ACTION FOR PARAMETER &1.
        ENDSELECT
```

An alternative syntax of the SELECT group:

SELECT

WHEN(Boolean expression)

The Boolean expression may contain any arithmetic expression. The result zero is equivalent to “false”, any other result is equal to “true”. Boolean operators “&”, “|”, “^”, “=” (like in PL/I) are supported.

```
                Statement
                Statement
                …
        OTHERWISE
                Statement
                Statement
                …
ENDSELECT
```

Example:

```
SELECT
        WHEN(A = 10 & SWITCH > 0)
        /* expression gives true or false */
                …
        WHEN(a + b)
        /* gives false if a+b=0 and true otherwise */
        …
        OTHERWISE
        …
ENDSELECT
```

DO i **=** n_1 **TO** n_2 **BY** n_3

Define an iterative loop. Start value, last value and step are specified. If omitted, the default step value is one. Also a list of loop values may be given (see example below).

ENDDO

Example:

```
DO ILOOP = 1 TO 11 BY 2
        GDISP DESPECTRUM(&ILOOP.)
ENDDO

DO ILOOP = 1, 5, 10
        GDISP DESPECTRUM(&ILOOP.)
ENDDO
```

IF Boolean expression THEN statement

Define an IF clause, consisting of one statement.

IF Boolean expression THEN DO

Define an IF clause, consisting of a number of statements

```
        Statement
        Statement
        …
ELSE
        Statement
        Statement
        …
ENDIF
```

LEAVE

Leave an iterative DO loop. May be used after an IF statement inside an iterative DO loop to leave the loop in a certain case.

Comments are denoted by /* …*/ as in PL/I, however, they can be nested. Alternatively, one line is commented if it begins with a “*”sing.

Examples:

```
DO I = 1 TO 10    /* Loop */
    IF I = 3 THEN GPRESET / SCALING(0.5)
    ELSE GPRESET / SCALING(0.3)
    GDISP SPECTRUM(&I.)
ENDDO

IPAR ENDVALUE = 4
DO J = 1 TO 5
    IF J = &ENDVALUE. THEN LEAVE
ENDDO

DO I = 1 TO 3
    IF I > 1 THEN EXEC CALIBRATION&1.
ENDDO
```

6. Automatic execution of specific command lists on start or stop of SATAN

The command lists \COMMANDS\$INIT.SCOM and $INIT.SCOM (in the path from which SATAN is started) are executed in this sequence when SATAN is started. This feature is useful e.g. to specify global preferences, e.g. GSET / SCALING(0.5).

The command lists $INIT.SCOM (in the path in which SATAN runs) and \COMMANDS\$EXIT.SCOM are executed in this sequence when SATAN is stopped. This feature is useful e-g- to save some results automatically to a file.