

SFIT4 can use extra lineshape and linemixing parameters.

The format is as follows

SDV parameters:

MOL# ISO# Quantum states TMP TMP TMP TMP GAMMA_2

i2,i1,a60,1x,f6.5,f5.4,f3.2,f8.6,1x,g15.6

Example one line of CH4 SDV parameters:

isotope number and quantum numbers

```
61  0 0 0 2 1F2  0 0 0 0 1A1  11E  2      12E
1   .04730.0640.40-.005968 0.124200E-01
```

the first four auxiliary numbers (denoted by TMP) are just the Voigt line parameters and not used, only the last number is the narrowing parameter used in the calculation of the SDV lineshape.

1st order line mixing parameters

The format is free starting with the character 61. The last two characters are used by Frank Hase to model the quadratic temperature dependency of the linemixing parameter. If they are missing, only the first parameter is used as the y-factor.

Example one line of CH4 1st order (Rosenkrantz) line mixing parameters:

```
61  0 0 0 2 1F2  0 0 0 0 1A1  12F1  4      13F2  3      0.150E+00 -
0.165E+01  0.000E+00
```

GALATRY parameters

The Galatry parameters are taken from HITRAN when available and formatted according to SFIT4. The format for the Galatry parameters is:

| mol/isot | v' | v'' | branch J'' | gam_air narrowing |
|----------|----|-----|------------|-------------------|
| 141 | 13 | 12 | P 2 | 0.0897 0.0391 |

The extra parameter for the Galatry function is named narrowing.