

### **cyclabs: absorption line, cyclotron**

A cyclotron absorption line as used in pulsar spectra. See Mihara *et al.*, Nature, 1990 or Makishima *et al.* PASJ, 1990.

$$M(E) = \exp \left[ -D_f \frac{(W_f E / E_{\text{cycl}})^2}{(E - E_{\text{cycl}})^2 + W_f^2} + D_{2h} \frac{(W_{2h} E / 2E_{\text{cycl}})^2}{(E - 2E_{\text{cycl}})^2 + W_{2h}^2} \right]$$

par1=  $D_f$       depth of the fundamental

par2=  $E_{\text{cycl}}$     cyclotron energy

par3=  $W_f$       width of the fundamental

par4=  $D_{2h}$       depth 2nd harmonic

par5=  $W_{2h}$      width of the 2nd harmonic