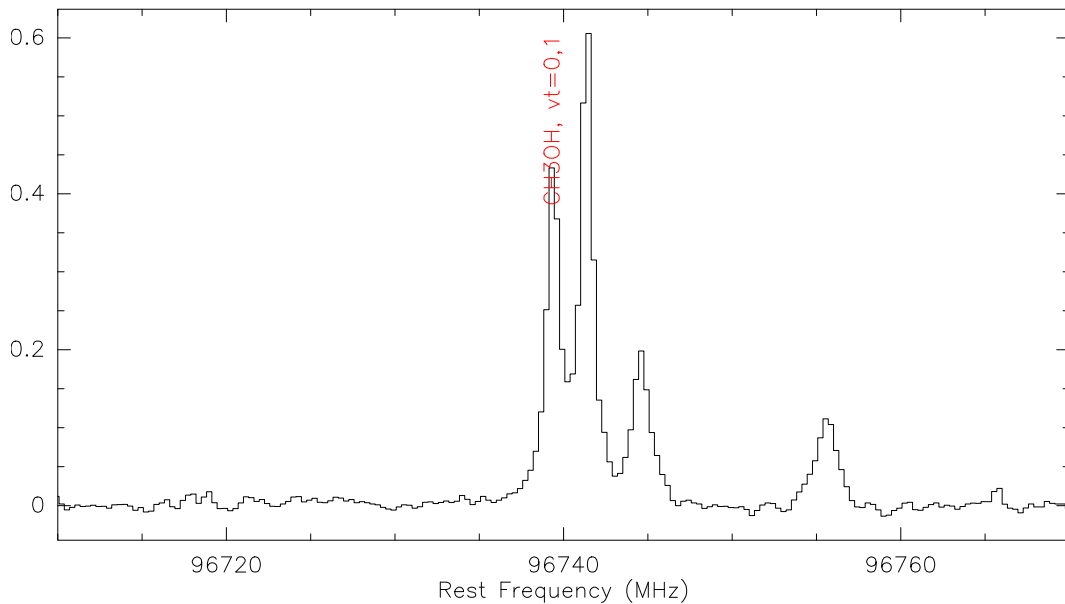
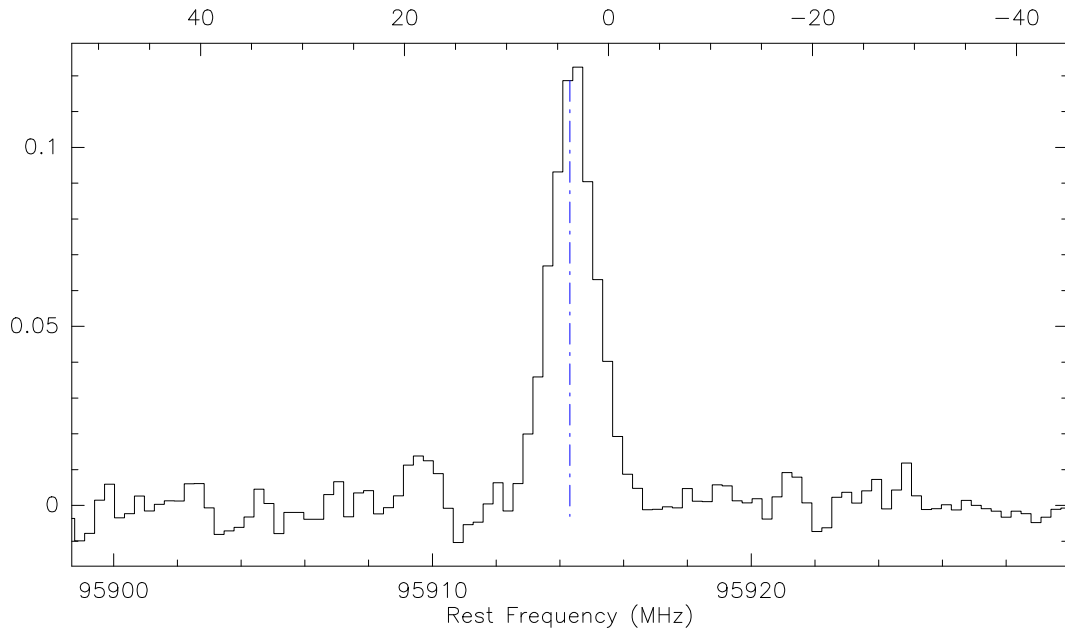




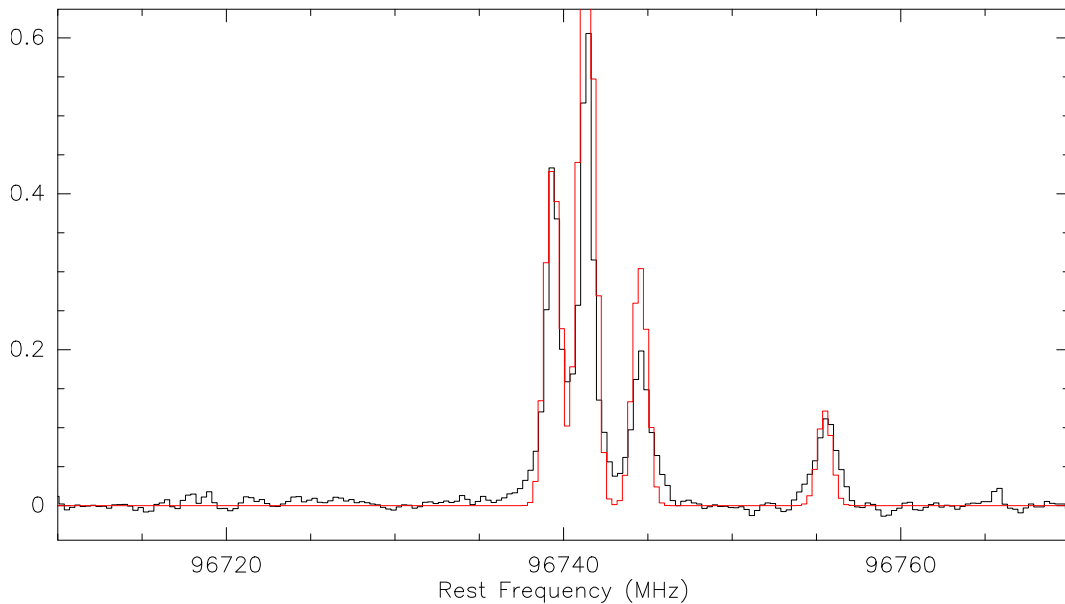
1; 1 IRAS16293 Unknown 30M-V01- O:12-DEC-2013 R:12-DEC-2013
RA: 16:32:22.59 DEC: -24:28:33.0 Eq 2000.0 Offs: +0.0 +0.0
Unknown tau: 0.075 Tsys: 146. Time: 6.95E+03min El: 0.0
N: 32000 l0: -31196.6 V0: 3.800 Dv: -1.167 LSR
F0: 80250.0000 Df: 0.3125 Fi: 83246.0159



1; 1 IRAS16293 Unknown 30M-V01- O:12-DEC-2013 R:12-DEC-2013
RA: 16:32:22.59 DEC: -24:28:33.0 Eq 2000.0 Offs: +0.0 +0.0
Unknown tau: 0.075 Tsys: 146. Time: 6.95E+03min El: 0.0
N: 32000 l0: 18926.2 v0: 3.800 Dv: -0.9768 LSR
F0: 95914.3090 Df: 0.3125 Fi: 67581.7069



1; 1 IRAS16293 Unknown 30M-V01- O:12-DEC-2013 R:12-DEC-2013
RA: 16:32:22.59 DEC: -24:28:33.0 Eq 2000.0 Offs: +0.0 +0.0
Unknown tau: 0.075 Tsys: 146. Time: 6.95E+03min El: 0.0
N: 32000 l0: -31196.6 V0: 3.800 Dv: -1.167 LSR
F0: 80250.0000 Df: 0.3125 Fi: 83246.0159



$$I_B(v) = I_v(I_x)(1 - e^{-T_v}) + I_{cont,v}e^{-T_v} + I_v(I_{cnb})e^{-T_v} - I_v(I_{cnb}),$$







$$j_v(I) = \frac{h\nu/kT - 1}{e^{h\nu/kT} - 1}$$





$$I_B(v) = I_{\text{cont},v}(I_{\text{ex}}) - I_{\text{cont},v}(1 - e^{-\tau})$$



$$I_B(v) = I_{\text{cont},v} + \eta (I_v(I_{\text{ex}}) - I_{\text{cont},v}) (1 - e^{-\tau_v})$$



$$T_{\rm B}^{\rm ng}(\nu) = T_{\rm cont,\nu} + \sum_{i=1}^{N_1} \eta_i \left(J_{\nu}(T_{\rm ex,i}) - J_{\nu}(T_{\rm cmb}) - T_{\rm cont,\nu} \right) \left(1 - e^{-\tau_{\nu,i}} \right)$$



$$I_B^j(v) = I_B^{j-1}(v)e^{-\tau_j} + \eta_j(v(I_{ex,j}) - I_v(I_{ab}))(1 - e^{-\tau_j})$$



ABOVE THE
EARTH



\sqrt{B} $\sqrt{N_2}$ \sqrt{B} \sqrt{cont} , v

IB **IB** **IB**

IBV 2020

IBR 2019