1

MHz

$$Flo2 = Fsyn - 0.5$$

$$Flo1 = M \times (H \times Flo2 - L \times Eps)$$

$$Fsky = Flo1 + S \times (Flo2 - 350)$$

$$Frest = \frac{Fsky - S \times (Fcent - 350)}{Doppler}$$

$$Frest = \frac{((M \times H + S) \times Flo2 - M \times L \times Eps) - S \times Fcent}{Doppler}$$

$(1 - v/c)$

$$Flo2 = \frac{Frest \times Doppler + S \times 350 + M \times L \times Eps}{M \times H + S}$$

$$F_I = \frac{(M \times H - S) \times Flo2 - M \times L \times Eps + S \times 350}{Doppler}$$

$$F_I = \frac{\frac{M \times H - S}{M \times H + S} \times (Frest \times Doppler + S \times 350 + M \times L \times Eps) - M \times L \times Eps + S \times 350}{Doppler}$$

$$F_I = \frac{(M \times H - S) \times (Frest \times Doppler + S \times 350 + M \times L \times Eps) + (M \times H + S) \times (S \times 350 - M \times L \times Eps)}{(M \times H + S) \times Doppler}$$

$$F_I = \frac{M \times H - S}{M \times H + S} \times Frest + \frac{(M \times H - S + M \times H + S) \times S \times 350 - (M \times H + S - M \times H + S) \times M \times L \times Eps}{(M \times H + S) \times Doppler}$$

$$F_I = \frac{M \times H - S}{M \times H + S} \times Frest + \frac{2 \times M \times H \times S \times 350 - 2 \times S \times M \times L \times Eps}{(M \times H + S) \times Doppler}$$

$$F_I = \frac{M \times H - S}{M \times H + S} \times Frest + \frac{2 \times S \times M \times (H \times 350 - L \times Eps)}{(M \times H + S) \times Doppler}$$

$D1$

$D2$

$V1$

$V2$

H

$$\delta F_I = \frac{D2 - D1}{D2 \times D1} \times \frac{2 \times S \times M \times (H \times 350 - L \times Eps)}{M \times H + S}$$

$V2 << c$

$H >> 1$

$M > 1$

$$\delta F_I = \frac{\delta V}{c} \times 700$$

-1

$$\delta V_I = \delta V \frac{700}{F_I}$$

$\delta V = 0.90$

$km.s^{-1}$

$\delta V = 15$

$\delta V = 60$

$$\delta F_I = 0.002$$

$MHz, \delta V_I = 0.007$

$$\delta F_I = 0.035$$

$MHz, \delta V_I = 0.11$

$\delta F_I = 0.14$

$MHz, \delta V_I = 0.45$

$\delta F = 0.14$