























$$\sigma_K = \frac{T_{\text{sys}}}{\sqrt{2} dv \Delta t}.$$







$$\pi_{\text{sys}} = \sqrt{\pi_{\text{sys}} \pi_{\text{sys}}}$$





1992

2

100

$$\sigma_K = \frac{T_{\rm sys}}{\eta_{\rm spec} \sqrt{2} dv \Delta t}.$$





$$j_{\text{ant}}^{\text{sd}} = \frac{2k F_{\text{eff}}}{A_{\text{eff}}},$$







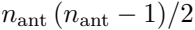
$$\sigma_{Jy} = \frac{J_{\text{ant}}^{\text{sd}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{2} dv \Delta t}.$$

2013

$$\sqrt{a_{ij}} = \sqrt{a_{ii} a_{jj}}$$

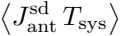


and
all

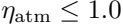




$$\sigma_{\mathrm{Jy}} = \frac{\left(J_{\mathrm{ant}}^{\mathrm{sd}} T_{\mathrm{sys}} \right)}{\eta_{\mathrm{spec}} \sqrt{n_{\mathrm{ant}} \left(n_{\mathrm{ant}} - 1 \right)} dv \Delta t},$$









$$j_{\text{ant}}^{\text{int}} = \frac{j_{\text{ant}}^{\text{sd}}}{\eta_{\text{atm}}}$$

WILLIAM

1871

1871

QWERTY

$$\text{rotation} = e^{-\frac{\phi^2}{2\pi m}} e^{i\pi}$$

$$\sigma_{Jy} = \frac{\langle J_{\text{ant}}^{\text{int}} T_{\text{sys}} \rangle}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} dv \Delta t}.$$

$$\sigma_{Jy} = \frac{\langle J_{\text{ant}}^{\text{int}} T_{\text{sys}} \rangle}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu \Delta t}, \quad \text{with} \quad J_{\text{ant}}^{\text{int}} = \frac{J_{\text{ant}}^{\text{sd}}}{\eta_{\text{atm}}} \quad \text{and} \quad \eta_{\text{atm}} = e^{-\frac{\phi_{\text{rms}}^2}{2}} \leq 1.0,$$



1000

1

1000



NEWBORN





Q

W

W

W

W



$$j_{\text{ant}} = \frac{2k \Omega_{\text{ant}} F_{\text{eff}}}{\lambda^2} \cdot$$

QPR100

$$j_{\text{ant}}^{\text{int}} = \frac{j_{\text{ant}}^{\text{sd}}}{\eta_{\text{atm}}} = \frac{1}{\eta_{\text{atm}}} \frac{F_{\text{eff}}}{B_{\text{eff}}} \frac{2k\Omega_{\text{prim}}}{\lambda^2}.$$

QWERTY



2014

—
—

1

1000

1000

1000

$$\sqrt{\frac{\rho_{\text{syn}}}{\rho_{\text{ant}}}} = \frac{2k\Omega_{\text{syn}}}{\lambda^2} \cdot$$

$$\sigma_K = \frac{\sigma_{Jy}}{J_{\text{ant}}^{\text{syn}}} \quad \text{with} \quad J_{\text{ant}}^{\text{syn}} = \frac{2\pi k \theta_{\text{maj}} \theta_{\text{min}}}{4 \ln 2 \lambda^2},$$

$$\sigma_K = \frac{\Omega_{\text{prim}}}{\Omega_{\text{syn}}} \left\langle \frac{F_{\text{eff}} T_{\text{sys}}}{B_{\text{eff}} \eta_{\text{atm}}} \right\rangle \frac{1}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu \Delta t} = \frac{\theta_{\text{prim}}^2}{\theta_{\text{maj}} \theta_{\text{min}}} \left\langle \frac{F_{\text{eff}} T_{\text{sys}}}{B_{\text{eff}} \eta_{\text{atm}}} \right\rangle \frac{1}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu \Delta t},$$

Q. 100

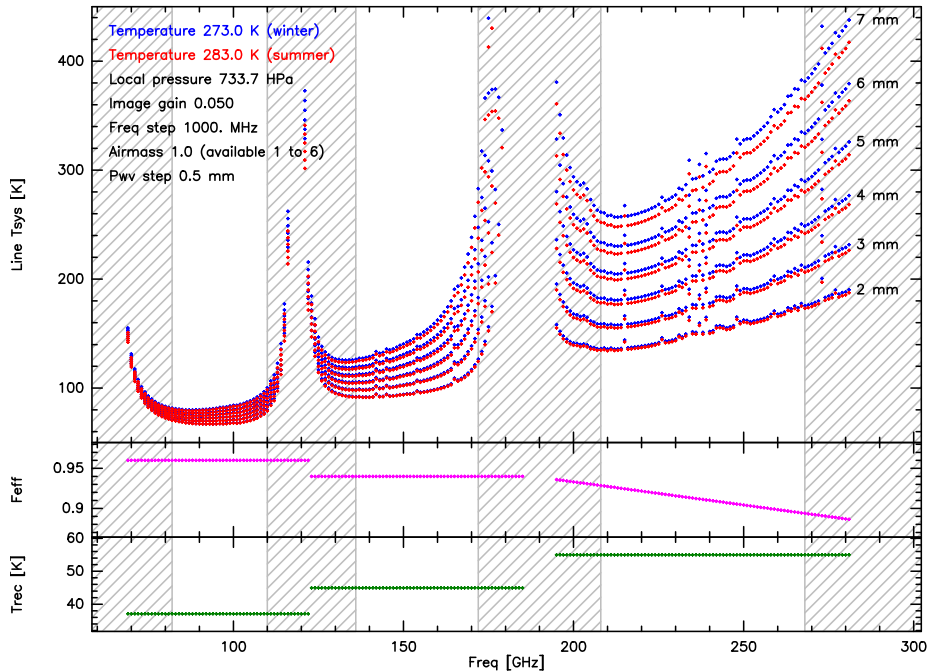
QWERTY

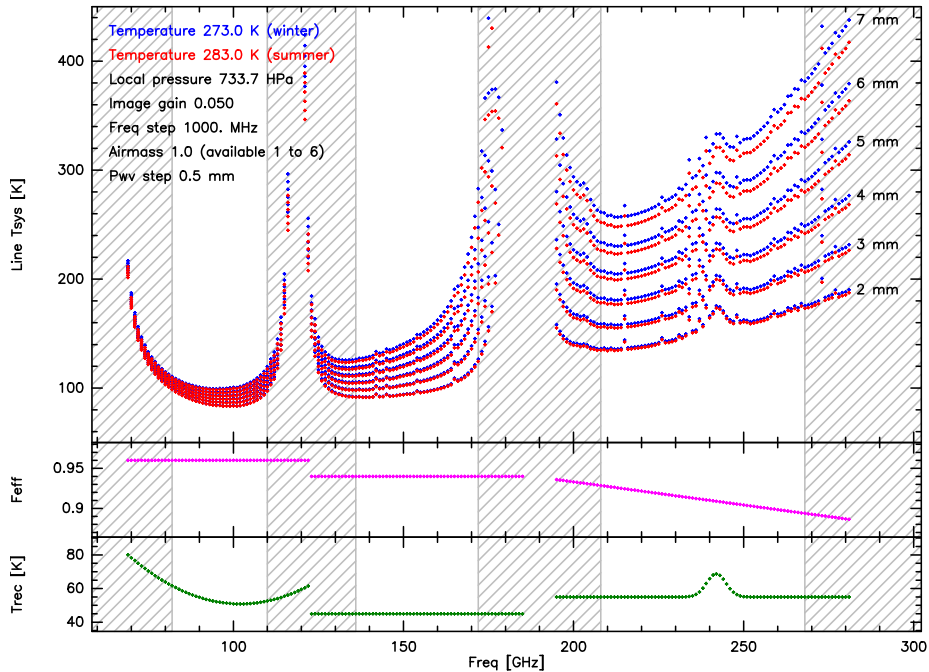


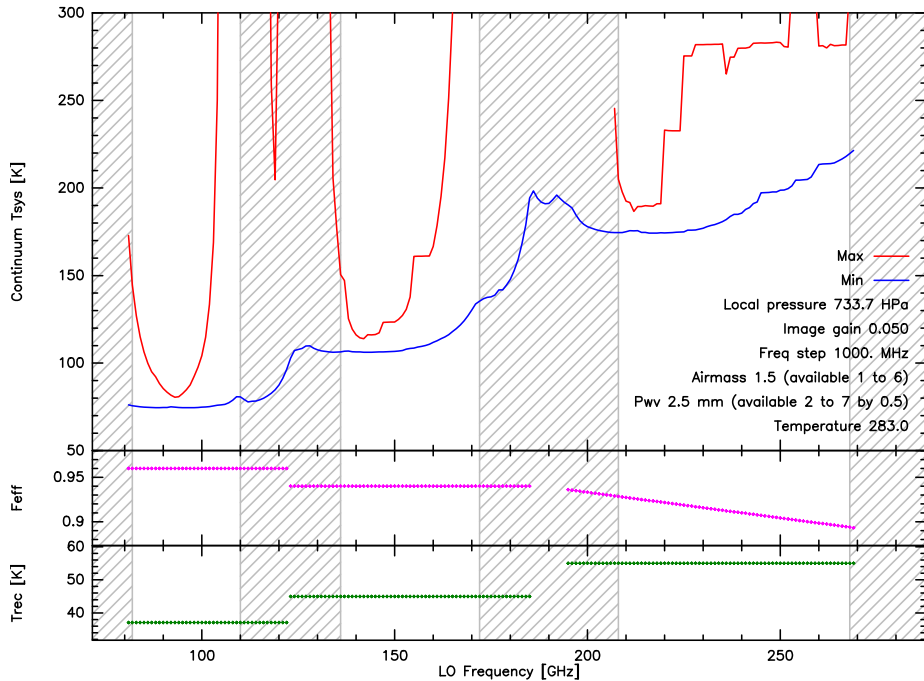


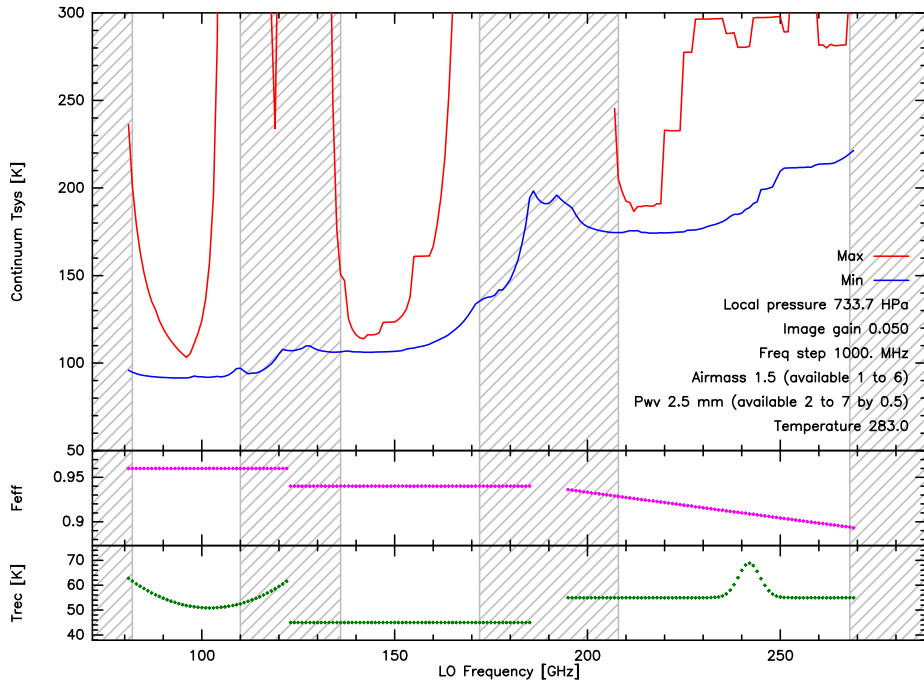
100% 24

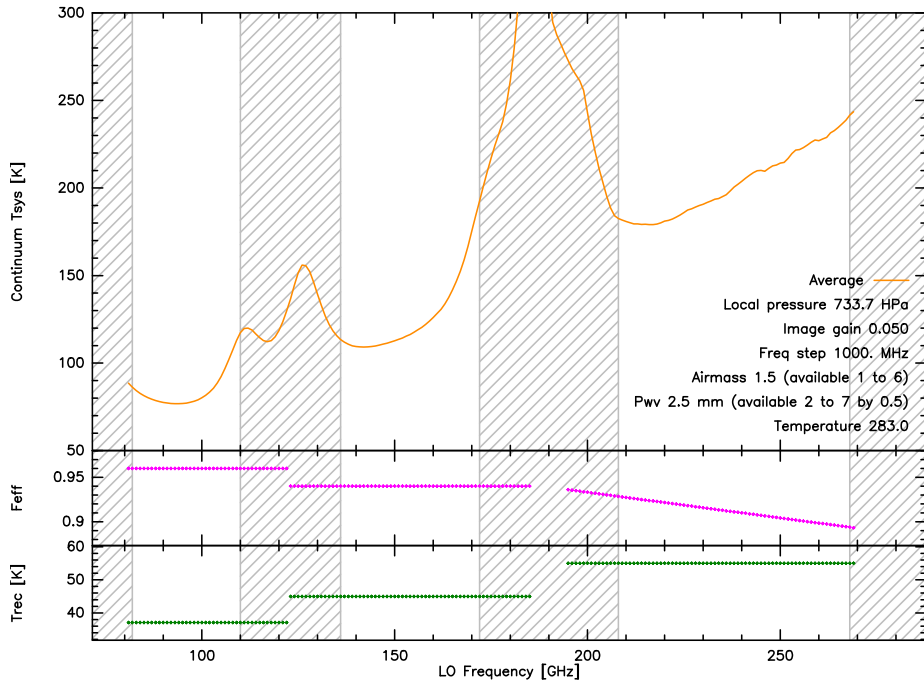


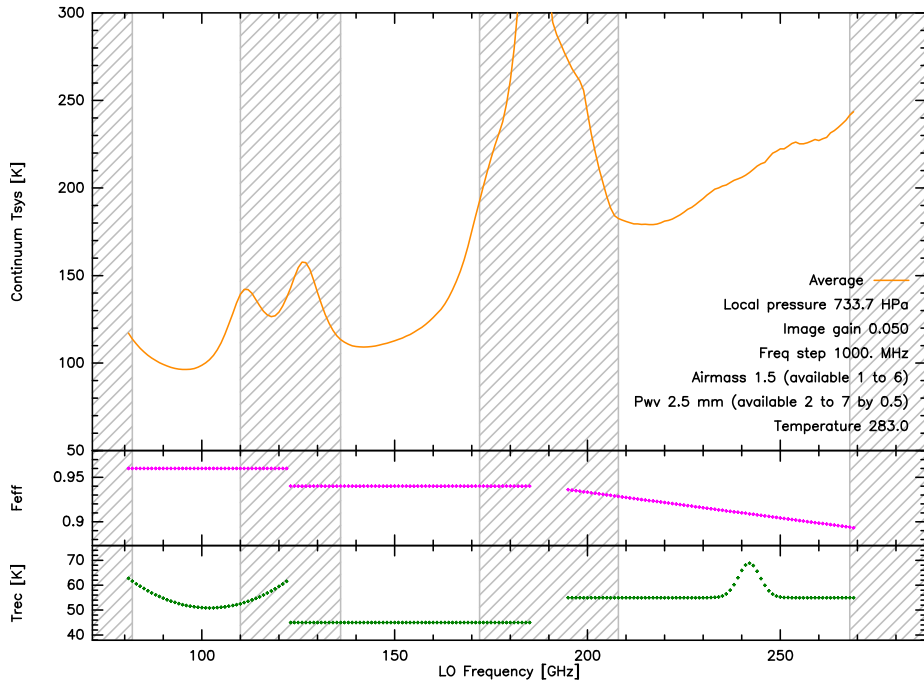












$$T_{sys} = \frac{(1 + G_{im}) \exp \{ \tau_s A \}}{F_{eff}} [F_{eff} T_{atm} (1 - \exp \{ -\tau_s A \}) + (1 - F_{eff}) T_{cab} + T_{rec}] ,$$





Ad = 1/2 (e + v + i)









$$\frac{1}{\langle T_{\text{sys}} \rangle^2} = \frac{1}{N} \sum \frac{1}{T_{\text{sys}}^2} \cdot$$







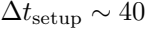
$$\sigma_{Jy} = \frac{j_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} dv n_{\text{pol}} \Delta t_{\text{on}}} .$$

$$\sigma_{Jy} = \frac{J_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu n_{\text{pol}} \Delta t_{\text{on}}} \quad \text{with} \quad J_{\text{ant}}^{\text{int}} = \frac{J_{\text{ant}}^{\text{sd}}}{\eta_{\text{atm}}} \quad \text{and} \quad \eta_{\text{atm}} = e^{-\frac{\phi_{\text{rms}}^2}{2}} \leq 1.0,$$

$$\sigma_K = \frac{\sigma_{Jy}}{J_{\text{ant}}^{\text{syn}}} \quad \text{with} \quad J_{\text{ant}}^{\text{syn}} = \frac{2\pi k \theta_{\text{maj}} \theta_{\text{min}}}{4 \ln 2 \lambda^2}.$$







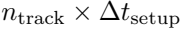


$$\Delta t_{\text{setup}} = \Delta t_{\text{setupmin}} + (n_{\text{freq}} - 1) \Delta t_{\text{setup}} / \text{freq};$$

UCLA
Engineering

△✱
estp
isq





100%

$$\Delta t_{obs} = \Delta t_{tel} - n_{track} \times \Delta t_{setup}.$$

$$n_{\text{track}} = \frac{\Delta t_{\text{tel}}}{\Delta t_{\text{visible}} + \Delta t_{\text{setup}}},$$

Welding

0.95

A pixelated, grayscale image of the text "1000000" in a monospace font. The digits are composed of black and gray pixels on a white background, giving it a retro, digital appearance. The number is centered horizontally.

— 2019

△ + △ = △

Δt_{on}

$=$

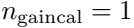
Δt_{obs}

$\times$

η_{obs}

A pixelated, grayscale image of the text "100%". The first "100%" is small and positioned on the left. To its right is a much larger, stylized "100%". The large "100%" features a thick vertical bar for the first "1", a small square for the decimal point, and a circular "0" with a thick outline. The entire image has a low-resolution, dithered appearance.





$$\eta_{\text{obs}} = \frac{1}{\Omega_{\text{obs}}} \quad \text{with} \quad \Omega_{\text{obs}} = \Omega_{\text{min}} + n_{\text{gaincal}} n_{\text{freq}} \Omega_{\text{/freq/gaincal}}, \quad \Omega_{\text{min}} = 1.3, \quad \text{and} \quad \Omega_{\text{/freq/gaincal}} = 0.3.$$



Uplinked

100%

100%

100%

2020-2021

opinion

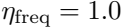


$$\eta_{\text{tot}} = \frac{\Sigma \Delta t_{\text{on}}}{\Delta t_{\text{tel}}}$$

$$\sigma_{Jy} = \frac{j_{\rm ant}^{\rm int} T_{\rm sys}}{\eta_{\rm spec} \sqrt{n_{\rm ant} (n_{\rm ant} - 1)} dv n_{\rm pol} \Delta t_{\rm on}},$$

$$\Delta t_{on} = \eta_{obs} \eta_{freq} (\Delta t_{tel} - n_{track} \times \Delta t_{setup}) ,$$









$$\sigma_{Jy} = \frac{j_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} dv n_{\text{pol}} \Delta t_{\text{on}}}$$

$$\Delta t_{\text{on}} = \eta_{\text{obs}} \eta_{\text{freq}} \left(\frac{\Delta t_{\text{tel}} - n_{\text{track}} \times \Delta t_{\text{setup}}}{n_{\text{sou}}} \right) .$$



$$n_{\text{beam}} = \frac{A_{\text{map}}}{A_{\text{beam}}}$$

1990



$$A_{\text{beam}} = \frac{0.8 \pi \theta_{\text{prim}}^2}{4 \ln(2)} ;$$

$$\sigma_{Jy} = \frac{j_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} dv n_{\text{pol}} \Delta t_{\text{on}}}$$

$$\Delta t_{\text{on}} = \eta_{\text{obs}} \eta_{\text{mos}} \left(\frac{\Delta t_{\text{tel}} - n_{\text{track}} \times \Delta t_{\text{setup}}}{n_{\text{beam}}} \right), \quad \text{and} \quad \eta_{\text{mos}} = \frac{\Delta t_{\text{point/cycle}}}{\Delta t_{\text{point/cycle}} + \Delta t_{\text{slew}}},$$

penetration

1991

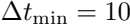


$$n_{\text{point}} = n_{\text{beam}} \left(\frac{7}{4} \right)^2,$$



Winnipeg

Winnipeg





$$\frac{\Delta t_{\text{int}}/\text{scan}}{1\text{s}} < < \frac{6900}{\theta_{\text{alias}}/\theta_{\text{syn}}},$$

Q112

QWID

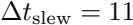
$$\Delta t_{\text{int}/\text{scan}} \leq \eta \frac{6900}{1\text{sec}} \sqrt{\frac{\theta_{\text{maj}}\theta_{\text{min}}}{A_{\text{map}}}},$$

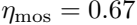






$$\leq \Delta t_{\text{int}/\text{scan}} = \min \left(45 \text{ sec}, \eta \frac{6\,900}{1 \text{ sec}} \sqrt{\frac{\theta_{\text{maj}} \theta_{\text{min}}}{A_{\text{map}}}} \right) \quad \text{with} \quad \eta = 0.5.$$





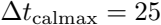


1990-1991

$$\eta_{\text{mos}} = \frac{\Delta t_{\text{point/cycle}}}{\Delta t_{\text{point/cycle}} + \Delta t_{\text{slew}}}$$

$$\Delta t_{\text{cycle}} = \Delta t_{\text{point/track}} (\Delta t_{\text{point/cycle}} + \Delta t_{\text{slw}}),$$

$\Delta t_{\text{point/cycle}} = \sqrt{\text{repeat}} \cdot t_{\text{point/cycle}} \cdot \Delta t_{\text{acc}}$



$$n_{\text{repeat/point/cycle}}^{\text{max}} = \frac{\Delta t_{\text{calmax}}/n_{\text{point/track}} - \Delta t_{\text{slew}}}{\Delta t_{\text{int/scan}}},$$

$$\eta_{\text{mos}} = 1 - \frac{n_{\text{point}} / \text{track} \Delta t_{\text{slew}}}{\Delta t_{\text{calmax}}} .$$

$$n_{\text{point/track}}^{\text{large}} = \text{floor} \left(\frac{\Delta t_{\text{calmax}}}{\Delta t_{\text{int/scan}} + \Delta t_{\text{slew}}} \right).$$

1991-2000

$$n_{\text{point}/\text{track}}^{\text{max}} = \frac{\Delta t_{\text{cyclenmax}}}{\Delta t_{\text{min}} + \Delta t_{\text{slew}}} \sim 150.$$

$$\Delta t_{\text{int}/\text{scan}} = \min \left\{ \Delta t_{\text{int}/\text{scan}}, \left(\frac{\Delta t_{\text{cyclmax}}}{n_{\text{point}/\text{track}}} - \Delta t_{\text{slew}} \right) \right\}.$$

$$\eta_{\min} = \frac{\Delta t_{\min}}{\Delta t_{\min} + \Delta t_{\text{slew}}} = 0.47.$$

$$n_{\text{beam}} = \frac{A_{\text{map}}}{A_{\text{beam}}}, \quad \text{where} \quad A_{\text{beam}} = \frac{0.8 \pi \theta_{\text{prim}}^2}{4 \ln(2)}.$$

$$n_{\text{point}} = n_{\text{beam}} \left(\frac{7}{4}\right)^2, \quad \text{and} \quad n_{\text{point}/\text{track}} = \min\left(n_{\text{point}}, \frac{n_{\text{point}}}{n_{\text{track}}}\right).$$

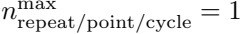
$$10 \text{ sec} \leq \Delta t_{\text{int/scan}} = \min \left(45 \text{ sec}, \eta \frac{6900}{1 \text{ sec}} \sqrt{\frac{\theta_{\text{maj}} \theta_{\text{min}}}{A_{\text{map}}}} \right) \quad \text{with} \quad \eta = 0.5.$$

$$n_{\text{point/track}}^{\text{large}} = \text{floor} \left(\frac{\Delta t_{\text{calmax}}}{\Delta t_{\text{int/scan}} + \Delta t_{\text{slew}}} \right), \quad \text{where} \quad \Delta t_{\text{slew}} = 11 \text{ sec}, \quad \text{and} \quad \Delta t_{\text{calmax}} = 25 \text{ min}.$$

$\left(\text{point/track} \right) \leq \left(\text{large point/track} \right)$

$$n_{\text{repeat/point/cycle}}^{\text{max}} = \frac{\frac{\Delta t_{\text{calmax}}}{n_{\text{point/track}}} - \Delta t_{\text{slew}}}{\Delta t_{\text{int/scan}}}.$$

(npoint/track) *>* *(npoint/track)*
large



$$n_{\text{point}/\text{track}} \leq n_{\text{point}/\text{track}}^{\text{max}}, \quad \text{where} \quad n_{\text{point}/\text{track}}^{\text{max}} = \frac{\Delta t_{\text{cyclemax}}}{\Delta t_{\text{min}} + \Delta t_{\text{slew}}} \sim 150, \quad \text{and} \quad \Delta t_{\text{cyclemax}} = 60 \text{ min.}$$

$$\text{if } n_{\text{point/track}} > n_{\text{point/track}}^{\text{large}}, \quad \text{then } \Delta t_{\text{int/scan}} = \min \left\{ \Delta t_{\text{int/scan}}, \left(\frac{\Delta t_{\text{cyclemax}}}{n_{\text{point/track}}} - \Delta t_{\text{slew}} \right) \right\}.$$

$$\eta_{\text{mos}} = \frac{\Delta t_{\text{point/cycle}}}{\Delta t_{\text{point/cycle}} + \Delta t_{\text{slew}}}, \quad \text{and} \quad \Delta t_{\text{point/cycle}} = n_{\text{repeat/point/cycle}}^{\text{max}} \Delta t_{\text{int/scan}},$$

$$\Delta t_{\text{cycle}} = n_{\text{point}/\text{track}} (\Delta t_{\text{point}/\text{cycle}} + \Delta t_{\text{slew}}).$$

$$\sigma_{\text{Jy}} = \frac{J_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu n_{\text{pol}} \Delta t_{\text{on}}}, \quad \text{and} \quad \Delta t_{\text{on}} = \eta_{\text{obs}} \eta_{\text{mos}} \left(\frac{\Delta t_{\text{tel}} - n_{\text{track}} \times \Delta t_{\text{setup}}}{n_{\text{beam}}} \right).$$



$$\sigma_{Jy,\text{point}}(\nu) = \frac{J_{\text{ant}}^{\text{int}}(\nu) T_{\text{sys}}(\nu)}{\eta_{\text{spec}} \sqrt{n_{\text{ant}}(n_{\text{ant}} - 1)} d\nu n_{\text{pol}} \Delta t_{\text{on,point}}},$$

$$\Delta t_{\text{on, point}} = \eta_{\text{obs}} \eta_{\text{mos}} \left(\frac{\Delta t_{\text{tel}} - n_{\text{track}} \times \Delta t_{\text{setup}}}{n_{\text{point}}} \right).$$

1992



$$f_v(p) = \left[\sum_{i=1}^{n_{\text{point}}} B_i^2(p, v) \right]^{-1/2}.$$

опыта, в том числе
— опыта, в том числе

$$\sigma_{\text{Jy,mos}}(p, \nu) = \frac{J_{\text{ant}}^{\text{int}}(\nu) T_{\text{sys}}(\nu)}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu n_{\text{pol}} \Delta t_{\text{on,point}}} \left[\sum_{i=1}^{n_{\text{point}}} B_i^2(p, \nu) \right]^{-1/2}.$$

As a result is not bad.

of the individual's
of the individual's

Opportunity is a
= Opportunity is

$$f_v = \text{mediana de } A_v \text{ para cada } v$$



Oxytropis, *Oxytropis*, *Oxytropis*

Approved
Valid
Date

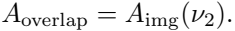
Alvin

Alvin









$$P_{1n2/1} = 100 \frac{A_{\text{img}}(v_2)}{A_{\text{img}}(v_1)}, \quad P_{1n2/2} = 100\%.$$

$$n_{\mathrm{beam,geom}}(\nu) = \frac{A_{\mathrm{img}}(\nu)}{A_{\mathrm{beam}}(\nu)}.$$

$$n_{\text{beam},\text{eq}}(v) = n_{\text{point}} f^2_v.$$



WELCOME TO THE

$$f_{\nu}(p) = \frac{1}{\sqrt{\sum_{i=1}^{n_{\text{point}}} B_{i,\nu}^2(p)}}.$$

Erwählter

$\text{Aimg}(v) = \text{Nvalid}(v) \text{Opix}$

$$f_v = \max_{p \in A_v} [f_v(p)],$$





A_{map}



$A_{img}(v)$

$$n_{\text{point}} = \text{number of pointings in the PMS pointing list, and } n_{\text{point/track}} = \min \left(n_{\text{point}}, \frac{n_{\text{point}}}{n_{\text{track}}} \right).$$

$$n_{\text{point}} = n_{\text{beam}} \left(\frac{7}{4} \right)^2$$

$$\Delta t_{\text{on, point}} = \eta_{\text{obs}} \eta_{\text{mos}} \left(\frac{\Delta t_{\text{tel}} - n_{\text{track}} \times \Delta t_{\text{setup}}}{n_{\text{point}}} \right),$$

$$\sigma_{Jy,point}(\nu) = \frac{J_{ant}^{int}(\nu) T_{sys}(\nu)}{\eta_{spec} \sqrt{n_{ant} (n_{ant} - 1)} d\nu n_{pol} \Delta t_{on,point}} .$$

$$\sigma_{j_{y,\text{typ}}}(v) = \sigma_{j_{y,\text{point}}}(v) \tilde{f}_v.$$

$$n_{\text{beam,eq}}(v) = n_{\text{point}} f^2_v.$$









$$\Omega_{\text{ant}}(\nu) = \int_{4\pi} P_{\text{ant}}(\theta, \phi, \nu) d\Omega,$$







airbnb

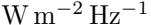


$$\Omega_{\text{fb}}(\nu) = \int_{2\pi} P_{\text{ant}}(\theta, \phi, \nu) d\Omega, \quad \text{and} \quad \Omega_{\text{mb}}(\nu) = \int_{\text{main lobe}} P_{\text{ant}}(\theta, \phi, \nu) d\Omega.$$

$$F_{\text{eff}} = \frac{\Omega_{\text{fb}}}{\Omega_{\text{ant}}}, \quad \text{and} \quad B_{\text{eff}} = \frac{\Omega_{\text{mb}}}{\Omega_{\text{ant}}}.$$

$$F_{\text{sou}}(\nu) = \int_{\text{source}} B(\theta, \phi, \nu) d\Omega,$$









90 100

$$F_{\text{obs}}(\theta_0, \phi_0, \nu) = \int_{\text{source}} B(\theta, \phi, \nu) P_{\text{ant}}(\theta - \theta_0, \phi - \phi_0, \nu) d\Omega,$$



$$F_{\text{obs}}(\theta_0, \phi_0, \nu) = \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega,$$

$$P_{\text{int}}(\theta_0 - \theta, \phi_0 - \phi, v) = P_{\text{int}}(\theta - \theta_0, \phi - \phi_0, v).$$

$$B_{\text{obs}}(\theta_0, \phi_0, \nu) = \frac{1}{\Omega} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega,$$









1990-1991

$$= \frac{1}{\Omega_{\text{ant}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega,$$

[illegible]

$$= \frac{1}{\Omega_{\text{fb}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega,$$

Beethoven's Op. 10, No. 1

$$= \frac{1}{\Omega_{\text{mb}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega.$$

$$B_{fb} = \frac{1}{F_{eff}} B_{ant} \quad \text{and} \quad B_{mb} = \frac{F_{eff}}{B_{eff}} B_{fb}.$$

overlapping
= overlapping















$$T_{\text{mb}}(\theta_0, \phi_0, \nu) = \frac{1}{\Omega_{\text{mb}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega.$$





139059x1021

$$d\nu(\theta_0, \phi_0, \nu) = \frac{1}{2} A_{\text{eff}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega.$$





$$\eta_{\text{ant}} = \frac{A_{\text{eff}}}{A_{\text{geo}}} < 1;$$

$$A_{geo} = \pi \left(\frac{D_{ant}}{2} \right)^2 \cdot$$

$$\text{Aeff}(v) \text{ quant}(v) = \lambda^2,$$

$$B(\theta, \phi, \nu) = \frac{2kT}{\lambda^2},$$

$$d\nu(\theta_0, \phi_0, \nu) = \frac{1}{2} A_{\text{eff}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega = \frac{1}{2} A_{\text{eff}} \Omega_{\text{ant}}(\nu) \frac{2kT}{\lambda^2}.$$

www.loveis.org



$$A_{\text{eff}}(\nu)\Omega_{\text{fb}}(\nu)=\lambda^2 F_{\text{eff}}(\nu) \text{ and } A_{\text{eff}}(\nu)\Omega_{\text{mb}}(\nu)=\lambda^2 B_{\text{eff}}(\nu).$$

$$B_{\text{eff}}(v) = \eta_{\text{ant}} A_{\text{geo}} \frac{\Omega_{\text{mb}}(v)}{\lambda^2} \cdot$$

$$A_{\mathrm{geo}} = \frac{\pi}{4} D^2, \quad \frac{\Omega_{\mathrm{mb}}(\nu)}{\lambda^2} = \frac{\pi}{4 \ln 2} \left(\frac{\theta_{\mathrm{mb}}}{\lambda} \right)^2,$$

$$\theta_{mb} = \alpha \frac{\lambda}{D},$$

$$B_{\text{eff}}(\nu) = \frac{\pi^2}{16 \ln 2} a^2 \eta_{\text{ant}}(\nu) \simeq 0.88899 a^2 \eta_{\text{ant}}(\nu).$$







$$\eta_{\text{ant}}(\nu) = \eta_{\text{ant}}^0 \exp \left\{ - \left(\frac{4\pi\sigma}{\lambda} \right)^2 \right\}.$$

Band 1

Band 3

