

























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







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







1992

2

100

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





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









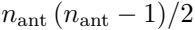
$$\sigma_{Jy} = \frac{J_{\text{ant}}^{\text{sd}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{2} dv \Delta t}.$$

1990

$$\sqrt[n]{a_{ij}} = \sqrt[n]{a_{ij}^i a_{ij}^j}$$



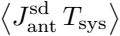
and  
all



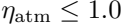




$$\sigma_{\mathrm{Jy}} = \frac{\left( J_{\mathrm{ant}}^{\mathrm{sd}} T_{\mathrm{sys}} \right)}{\eta_{\mathrm{spec}} \sqrt{n_{\mathrm{ant}} \left( n_{\mathrm{ant}} - 1 \right)} dv \Delta t},$$









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

WILLIAM

1871

1871





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

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

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



1000

1

1000



NEWBORN











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

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

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

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

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

Qeios

QWERTY

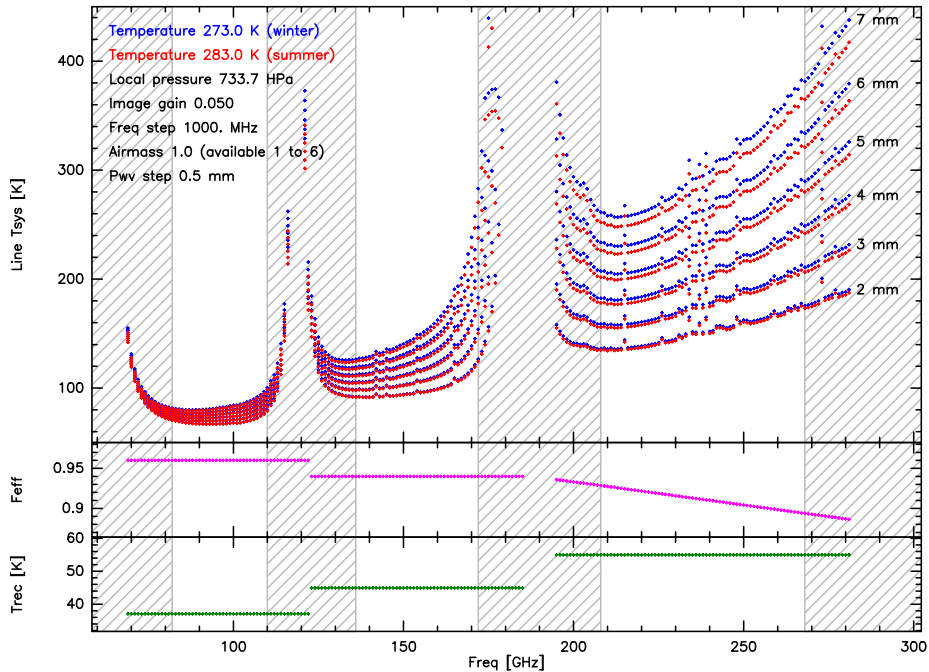


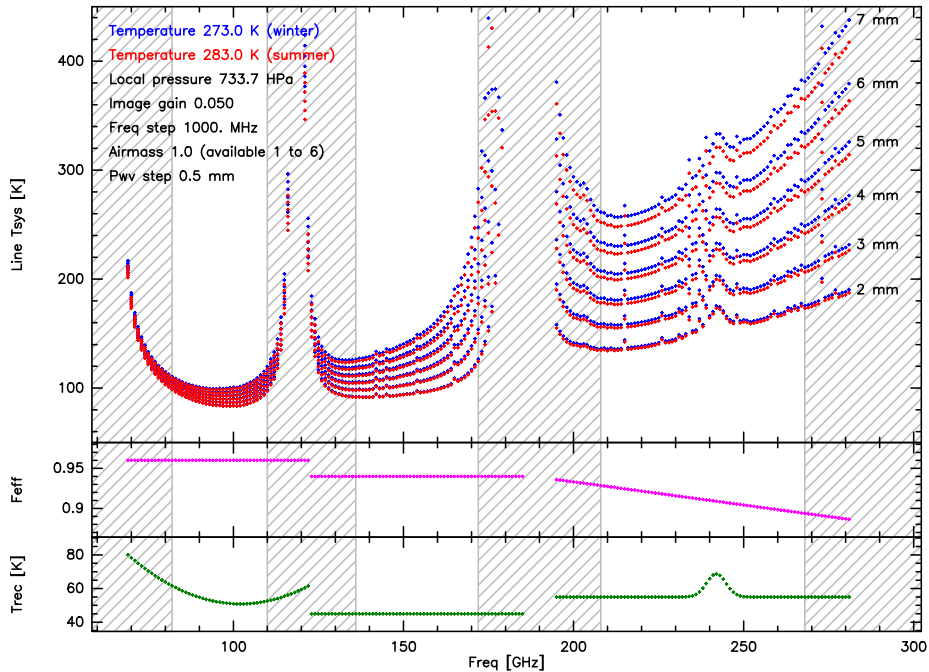


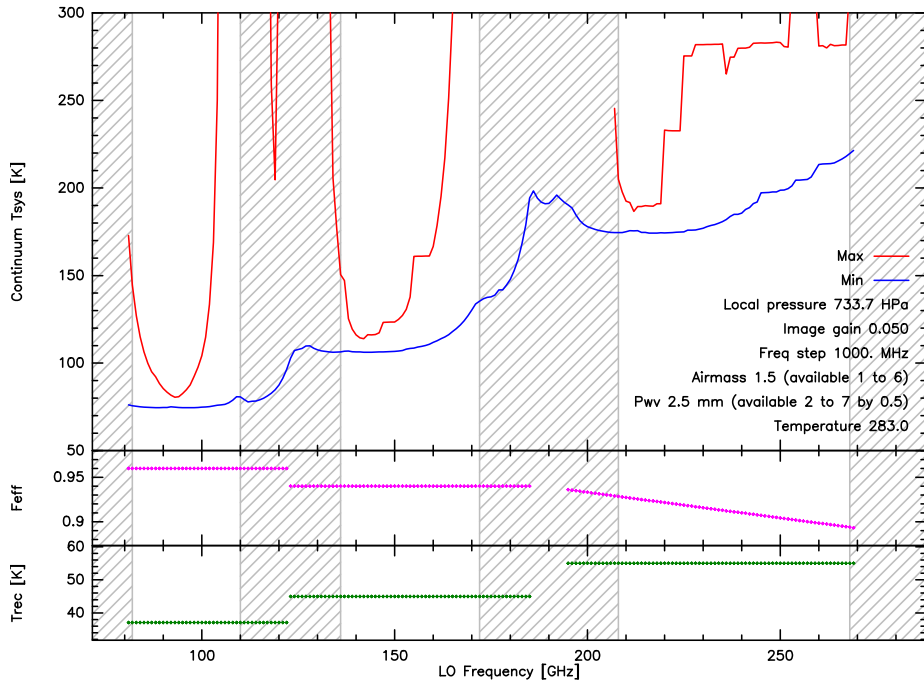


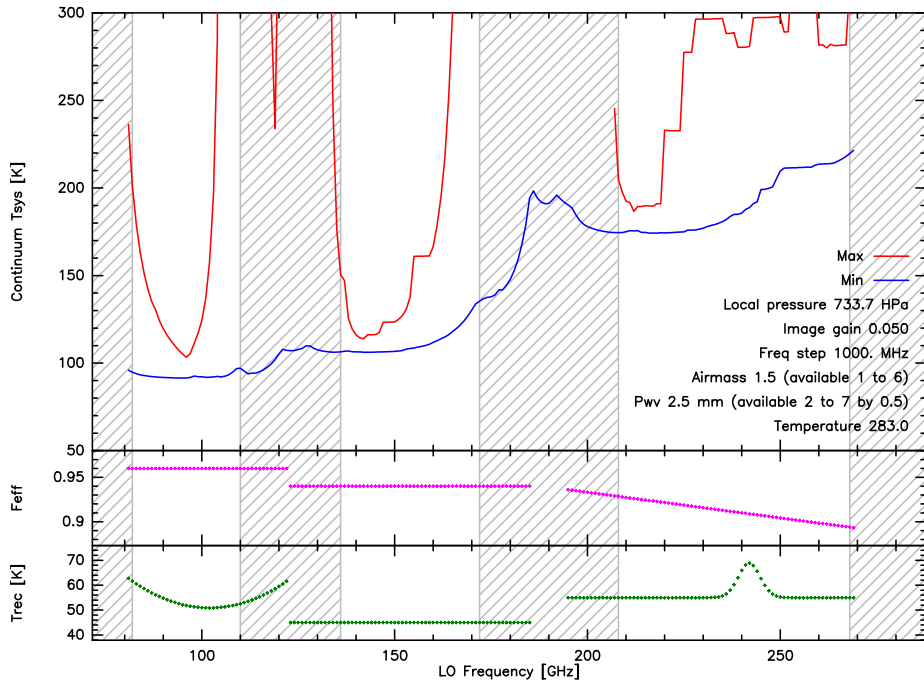
100%



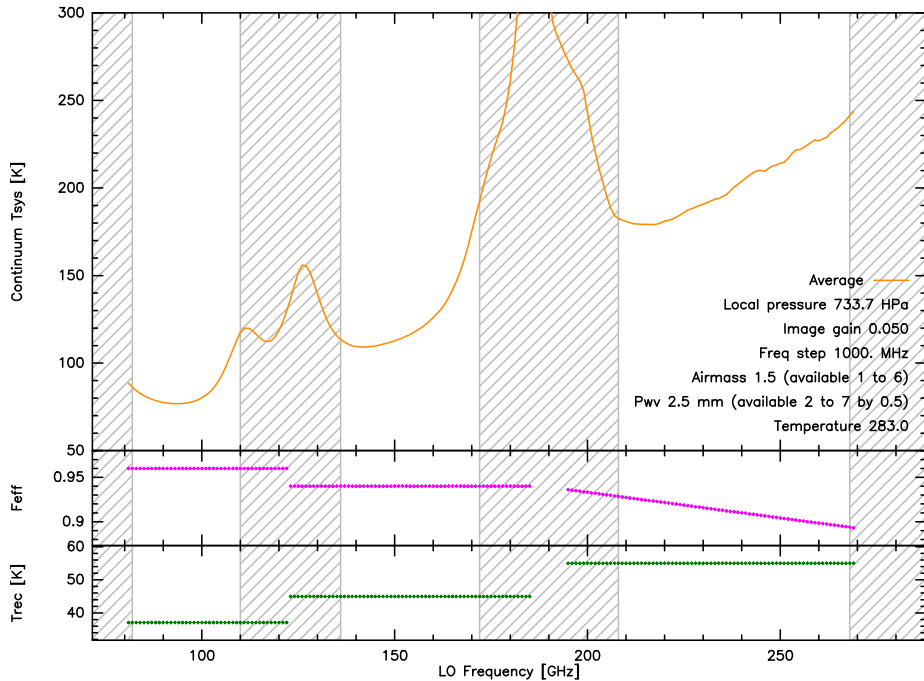


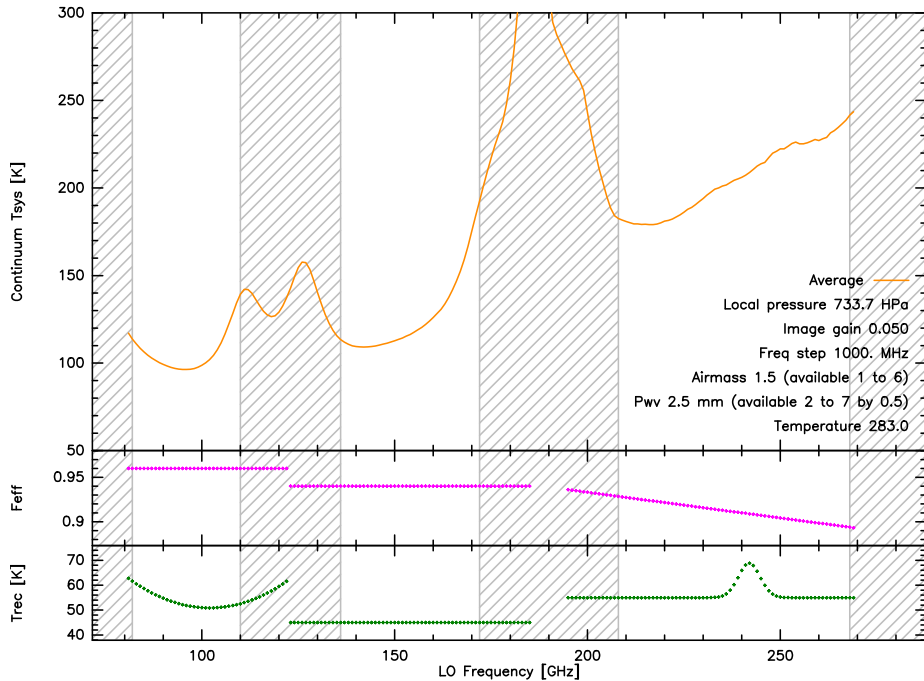












$$T_{sys} = \frac{(1 + G_{im}) \exp \{ \tau_s A \}}{F_{eff}} [F_{eff} T_{atm} (1 - \exp \{ -\tau_s A \}) + (1 - F_{eff}) T_{cab} + T_{rec}],$$





Adrianus











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







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

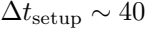
$$\sigma_{Jy} = \frac{J_{\text{ant}}^{\text{int}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{n_{\text{ant}} (n_{\text{ant}} - 1)} d\nu n_{\text{pol}} \Delta t_{\text{on}}} \quad \text{with} \quad J_{\text{ant}}^{\text{int}} = \frac{J_{\text{ant}}^{\text{sd}}}{\eta_{\text{atm}}} \quad \text{and} \quad \eta_{\text{atm}}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



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









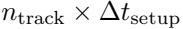
$$\Delta t_{\text{setup}} = \Delta t_{\text{setupmin}} + (n_{\text{freq}} - 1) \Delta t_{\text{setup}} / \text{freq};$$

Upland

△✱welcome to the world







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

0.99

[illegible]



2019

10000000

*△ + △ visible + △ + △*

$\Delta t_{on}$

$=$

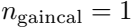
$\Delta t_{obs}$

$\times$

$\eta_{obs}$

A pixelated, grayscale image of the text "100%". The first "100%" is small and positioned on the left. The second "100%" is significantly larger, positioned on the right, and features a thick, dark vertical bar for the first zero, with a small square for the decimal point and a large, rounded zero for the percentage sign. 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



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

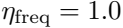




$$\sigma_{Jy} = \frac{j_{\rm ant}^{\rm int} T_{\rm sys}}{\eta_{\rm spec} \sqrt{n_{\rm ant} (n_{\rm ant} - 1)} dv n_{\rm pol} \Delta t_{\rm on}},$$

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





A pixelated, grayscale version of the text "Wag the Dog". The letters are composed of various shades of gray and black pixels, giving it a retro, digital appearance. The text is arranged in a single line, with "Wag" followed by "the" and "Dog".







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

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





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

1990



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



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

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

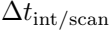
penetration



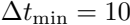


$$n_{\text{point}} = n_{\text{beam}} \left( \frac{7}{4} \right)^2,$$











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

Q112

QWID

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

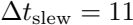




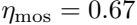




$$\leq \Delta t_{\text{int}/\text{scan}} = \min \left( 45 \text{ sec}, \eta \frac{6\,900}{1 \text{ sec}} \sqrt{\frac{\theta_{\text{maj}} \theta_{\text{min}}}{A_{\text{map}}}} \right) \quad \text{with} \quad \eta = 0.5.$$



A pixelated, black and white graphic of the text "The End of the World". The text is rendered in a highly stylized, jagged, and somewhat irregular font, reminiscent of early digital art or a low-resolution digital typeface. The letters are composed of various shades of gray and black pixels, giving it a textured, almost hand-drawn appearance. The words are arranged in a single line, with "The" and "of" being smaller and positioned between the larger words "End" and "World". The overall aesthetic is reminiscent of early digital art or a low-resolution digital typeface.





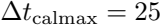
1990-1991

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



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

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



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

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

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

1991-2022

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



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

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

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

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

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

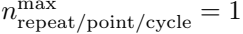
$$n_{\text{point/track}}^{\text{large}} = \text{floor} \left( \frac{\Delta t_{\text{calmax}}}{\Delta t_{\text{int/scan}} + \Delta t_{\text{slew}}} \right), \quad \text{where} \quad \Delta t_{\text{slew}} = 11 \text{ sec}, \quad \text{and} \quad \Delta t_{\text{calmax}} = 25 \text{ min}.$$

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

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



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



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

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

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

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

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





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

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

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 *wp* is not *blvd*.



of my wife's individuality. I have no doubt that my wife's individuality is one of the most important factors in my life.

Opportunity is a  
= Opportunity is a

*f = independent variable*



*Oxytropis*, *Oxytropis*, *Oxytropis*

Approved  
Valid  
Date

Alvin

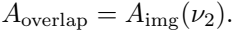
Alvin











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

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

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





WELCOME TO THE

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

Erwählter

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

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





$A_{map}$



$A_{img}(v)$



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

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

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

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

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

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











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







airbnb



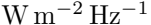


$$\Omega_{\text{fb}}(\nu) = \int_{2\pi} P_{\text{ant}}(\theta, \phi, \nu) d\Omega, \quad \text{and} \quad \Omega_{\text{mb}}(\nu) = \int_{\text{main lobe}} P_{\text{ant}}(\theta, \phi, \nu) d\Omega.$$

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

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













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



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

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

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











Is it possible to

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

1990-2000

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

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



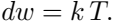














$$T_{\text{mb}}(\theta_0, \phi_0, \nu) = \frac{1}{\Omega_{\text{mb}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega.$$





13059x1021

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





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



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

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

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

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

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

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



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

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

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







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

Band 1

Band 3

