























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







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





1992

2

100

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





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







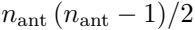
$$\sigma_{Jy} = \frac{J_{\text{ant}}^{\text{sd}} T_{\text{sys}}}{\eta_{\text{spec}} \sqrt{2} \, d\nu \, \Delta t}.$$

1990

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

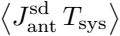


and
all

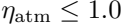




$$\sigma_{\mathrm{Jy}} = \frac{\left(J_{\mathrm{ant}}^{\mathrm{sd}} T_{\mathrm{sys}} \right)}{\eta_{\mathrm{spec}} \sqrt{n_{\mathrm{ant}} \left(n_{\mathrm{ant}} - 1 \right)} dv \Delta t},$$









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

WILLIAM

1871

1871

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









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

QPR100

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

QWERTY



2017

—
—

1

1000

1000

1000

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

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

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

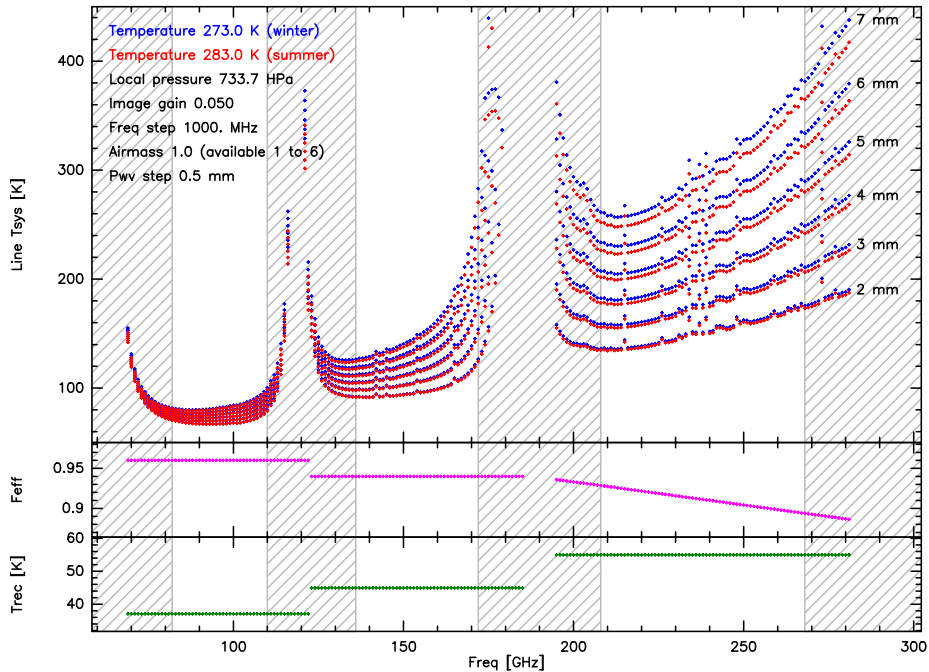
Q. 100

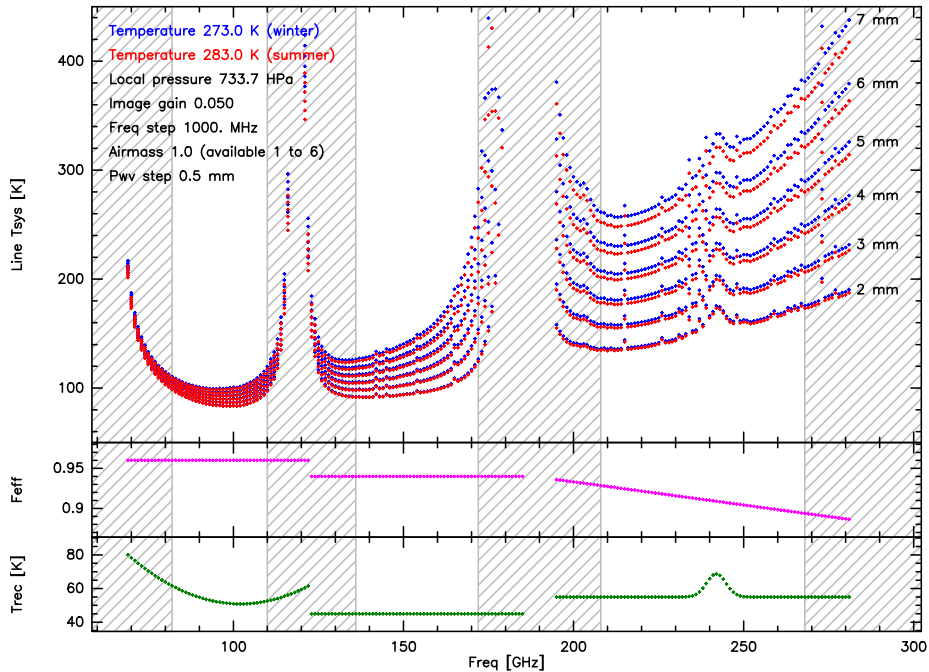


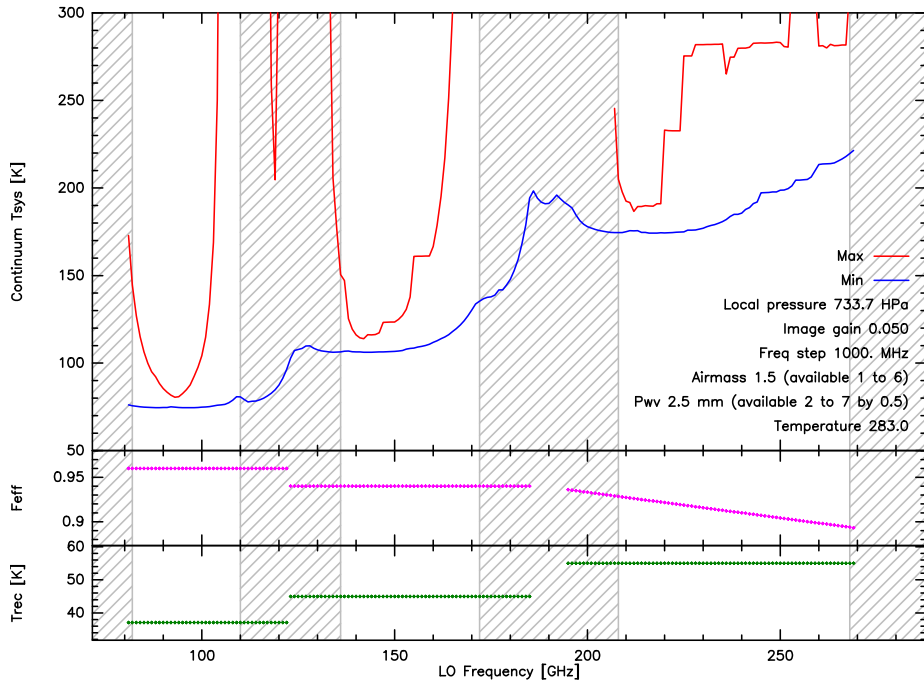


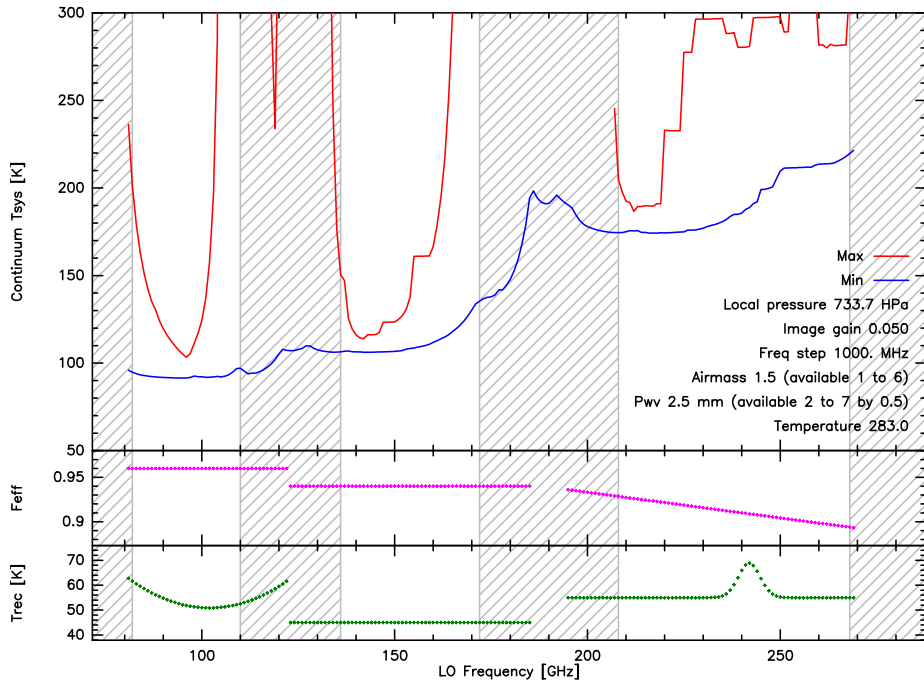
100%

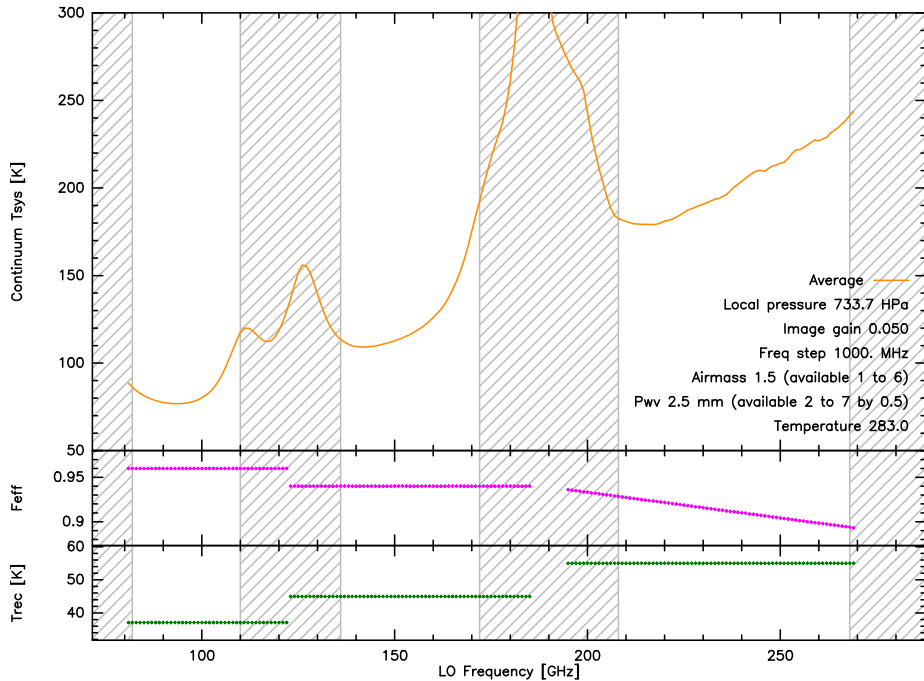


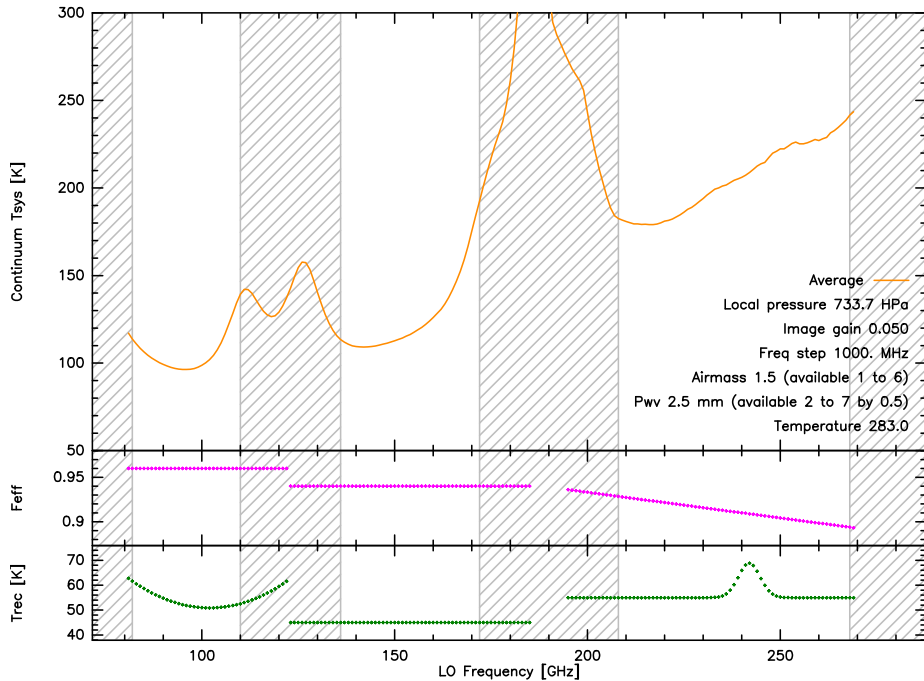












$$T_{sys} = \frac{(1 + G_{im}) \exp \{ \tau_s A \}}{F_{eff}} [F_{eff} T_{atm} (1 - \exp \{ -\tau_s A \}) + (1 - F_{eff}) T_{cab} + T_{rec}],$$





Adrianus









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







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

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

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







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

UCLA
Engineering

△✱
estp
isq



Wiederholung

100%

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

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

Walden

0.95

[illegible]

2019

△ + △ visible + △ +

Δt_{on}

$=$

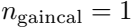
Δt_{obs}

$\times$

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 large, stylized "100%" that dominates the right half of the image. 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%

A horizontal sequence of six grayscale images showing the progression of a handwritten digit '1'. The first image on the left is highly noisy and pixelated, with the digit '1' barely discernible. As the sequence progresses from left to right, the noise decreases and the digit becomes increasingly clear and solid. The final image on the right shows a clean, well-defined handwritten digit '1' with no visible noise or pixelation.

2020-2021

opinion



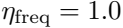
$$\eta_{\text{tot}} = \frac{\Sigma \Delta t_{\text{on}}}{\Delta t_{\text{tel}}}$$

WORLD OF

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

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











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

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



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

1990



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

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

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

penitence

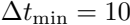
A pixelated, grayscale illustration of the word "EUREKA" in a stylized, blocky font. The letters are composed of various shades of gray and black pixels, giving it a retro, digital appearance. The background is white.



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

Uwaga: Wzrost

Uwaga: Wzrost





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

Q112

QWID

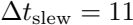
$$\Delta t_{\text{int}/\text{scan}} \leq \eta \frac{6900}{1\text{sec}} \sqrt{\frac{\theta_{\text{maj}}\theta_{\text{min}}}{A_{\text{map}}}},$$



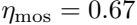




$$\leq \Delta t_{\text{int}/\text{scan}} = \min \left(45 \text{ sec}, \eta \frac{6\,900}{1 \text{ sec}} \sqrt{\frac{\theta_{\text{maj}} \theta_{\text{min}}}{A_{\text{map}}}} \right) \quad \text{with} \quad \eta = 0.5.$$



The image is a pixelated, black and white graphic of the text "The End of the World". The text is rendered in a highly stylized, jagged, and irregular font that resembles a low-resolution digital or hand-drawn aesthetic. The letters are composed of various shades of gray and black pixels, giving it a textured, almost mosaic-like appearance. The words are arranged in a single line, with "The" and "End" being smaller and positioned above "of the World". The overall effect is one of digital decay or a corrupted digital message.





Pravda

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

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

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

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

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

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

1991-2000

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

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

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

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

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

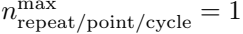
$$10 \text{ sec} \leq \Delta t_{\text{int/scan}} = \min \left(45 \text{ sec}, \eta \frac{6900}{1 \text{ sec}} \sqrt{\frac{\theta_{\text{maj}} \theta_{\text{min}}}{A_{\text{map}}}} \right) \quad \text{with} \quad \eta = 0.5.$$

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

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

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

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



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

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

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

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

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



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

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

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 *blabla*.

of my wife's individuality. I have no doubt that I have been a good husband, but I have not been a good father. I have not been able to give my children the same individuality that I have given my wife. I have not been able to give them the same freedom that I have given her. I have not been able to give them the same love that I have given her. I have not been able to give them the same respect that I have given her. I have not been able to give them the same understanding that I have given her. I have not been able to give them the same compassion that I have given her. I have not been able to give them the same forgiveness that I have given her. I have not been able to give them the same grace that I have given her. I have not been able to give them the same mercy that I have given her. I have not been able to give them the same kindness that I have given her. I have not been able to give them the same gentleness that I have given her. I have not been able to give them the same meekness that I have given her. I have not been able to give them the same patience that I have given her. I have not been able to give them the same self-control that I have given her. I have not been able to give them the same faith that I have given her. I have not been able to give them the same hope that I have given her. I have not been able to give them the same love that I have given her. I have not been able to give them the same respect that I have given her. I have not been able to give them the same understanding that I have given her. I have not been able to give them the same compassion that I have given her. I have not been able to give them the same forgiveness that I have given her. I have not been able to give them the same grace that I have given her. I have not been able to give them the same mercy that I have given her. I have not been able to give them the same kindness that I have given her. I have not been able to give them the same gentleness that I have given her. I have not been able to give them the same meekness that I have given her. I have not been able to give them the same patience that I have given her. I have not been able to give them the same self-control that I have given her. I have not been able to give them the same faith that I have given her. I have not been able to give them the same hope that I have given her. I have not been able to give them the same love that I have given her.

Opjvpr (v) = Opjvpr (v) v

$$f_v = \text{mediana}(p_e, v)$$



Oxytropis, *Oxytropis*, *Oxytropis*

Approved
Valid
Date

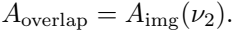
Alvin

Alvin









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

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

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



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}



$A_{img}(v)$

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

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

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

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

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

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









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







airbnb

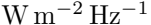


$$\Omega_{\text{fb}}(\nu) = \int_{2\pi} P_{\text{ant}}(\theta, \phi, \nu) d\Omega, \quad \text{and} \quad \Omega_{\text{mb}}(\nu) = \int_{\text{main lobe}} P_{\text{ant}}(\theta, \phi, \nu) d\Omega.$$

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

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









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

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

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

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

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

over the world, over the world,



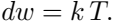












$$T_{\text{mb}}(\theta_0, \phi_0, \nu) = \frac{1}{\Omega_{\text{mb}}} \int_{\text{source}} B(\theta, \phi, \nu) \tilde{P}_{\text{ant}}(\theta_0 - \theta, \phi_0 - \phi, \nu) d\Omega.$$





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





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

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

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

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

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

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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

