



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of Justice and Police FDJP
Federal Office of Metrology METAS

An aerial photograph of a modern, multi-story building complex with a grey facade and large windows. The building is situated in a rural area with green fields and rolling hills in the background. In the foreground, there is a paved courtyard with a small tree and three flagpoles flying the Swiss flag, a white flag, and a red flag with a black emblem. The sky is clear and blue.

TWSTFT Station Report of METAS Ch. Schlunegger

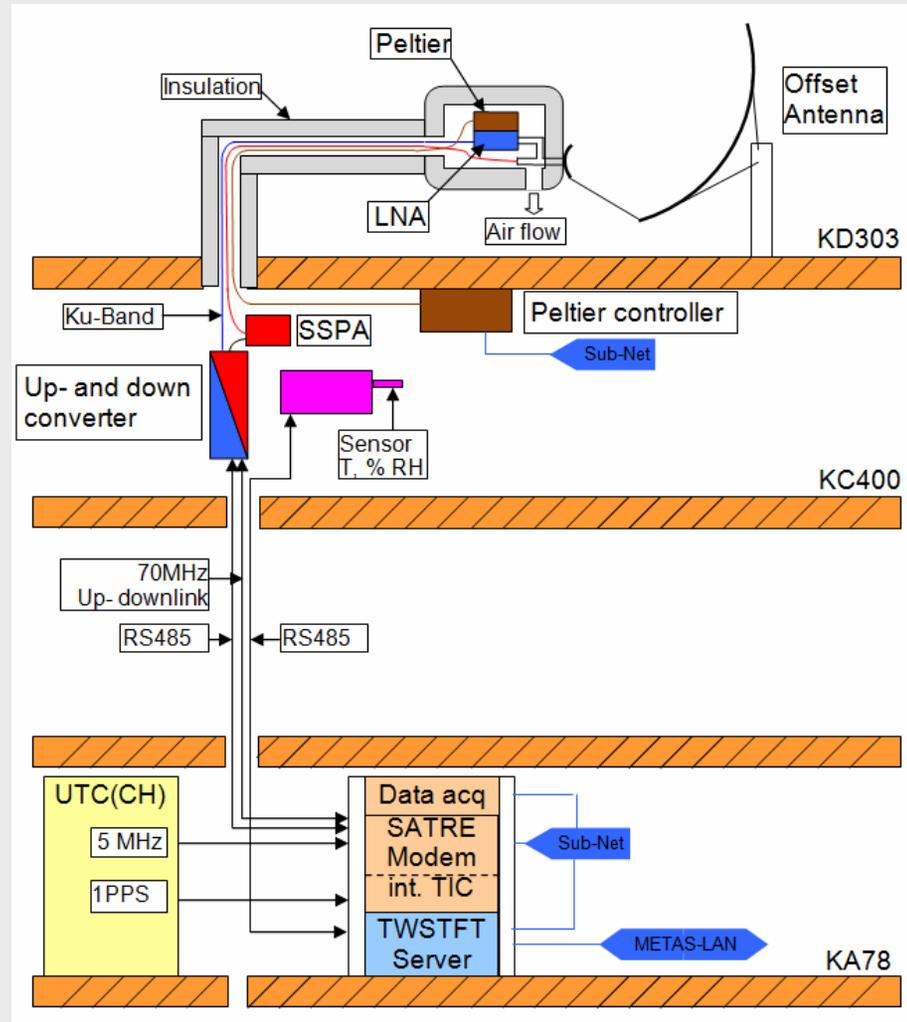


Content

- Temperature stabilisation of TW equipment completed since MJD 55701 (20 May 2011)
- Scheme of the modified hardware setup
- Achieved temperature variations
- Effect on Diurnals
- Conclusion

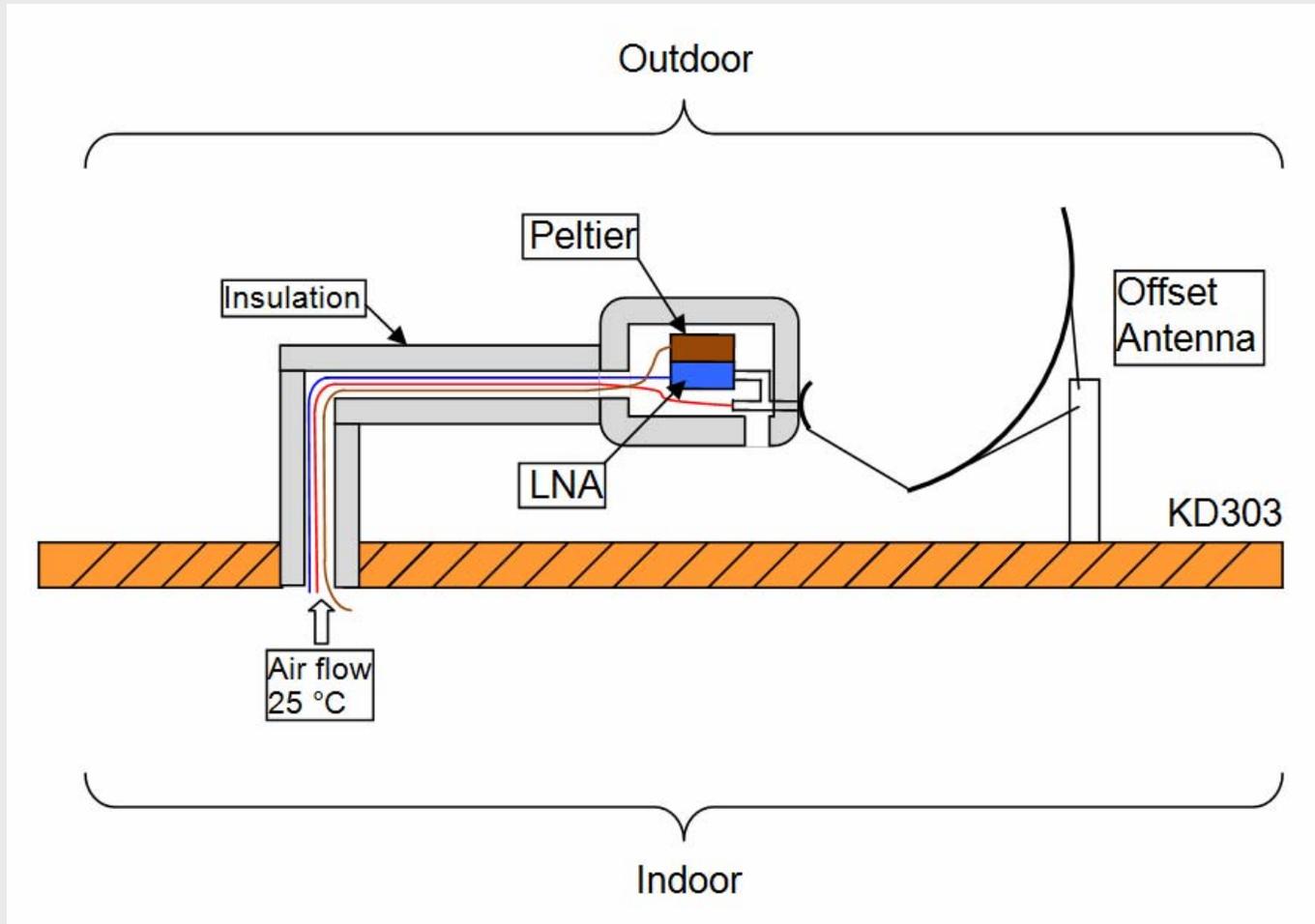


TW setup at METAS since MJD 55701





Temperature Stabilisation of TW Outdoor Equipment





Outdoor Setup, LNA Insulation



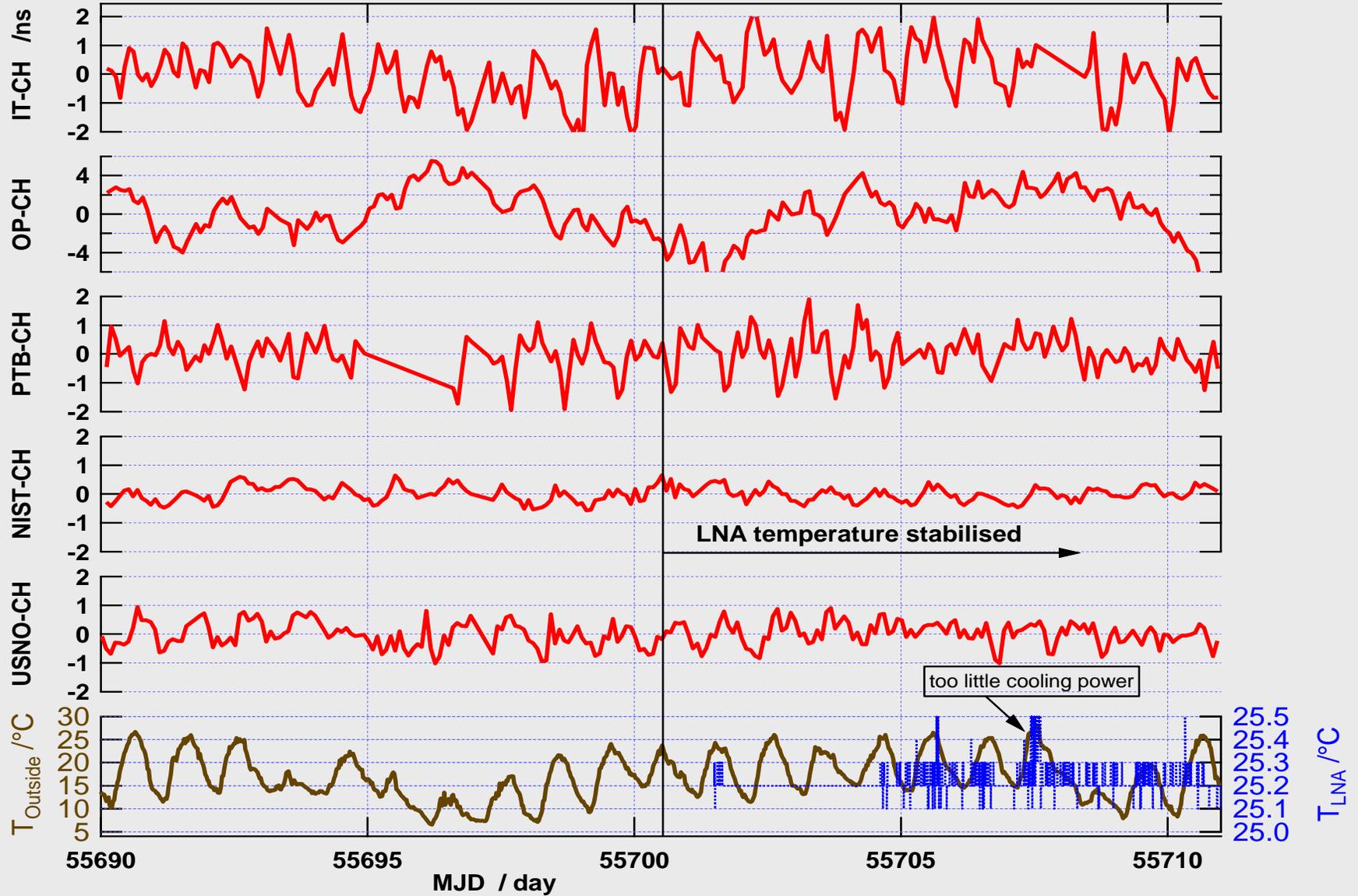


Environment Temperatures of METAS TW Equipment since MJD 55701

Location	Equipment	Temperature
Outdoor	- LNA - RF cables	(26.2 ±1.3) °C
Indoor (beneath roof)	- SSPA - Transceiver	(24.2 ±0.4) °C
T&F Laboratory	- SATRE modem	(20.9 ±0.1) °C

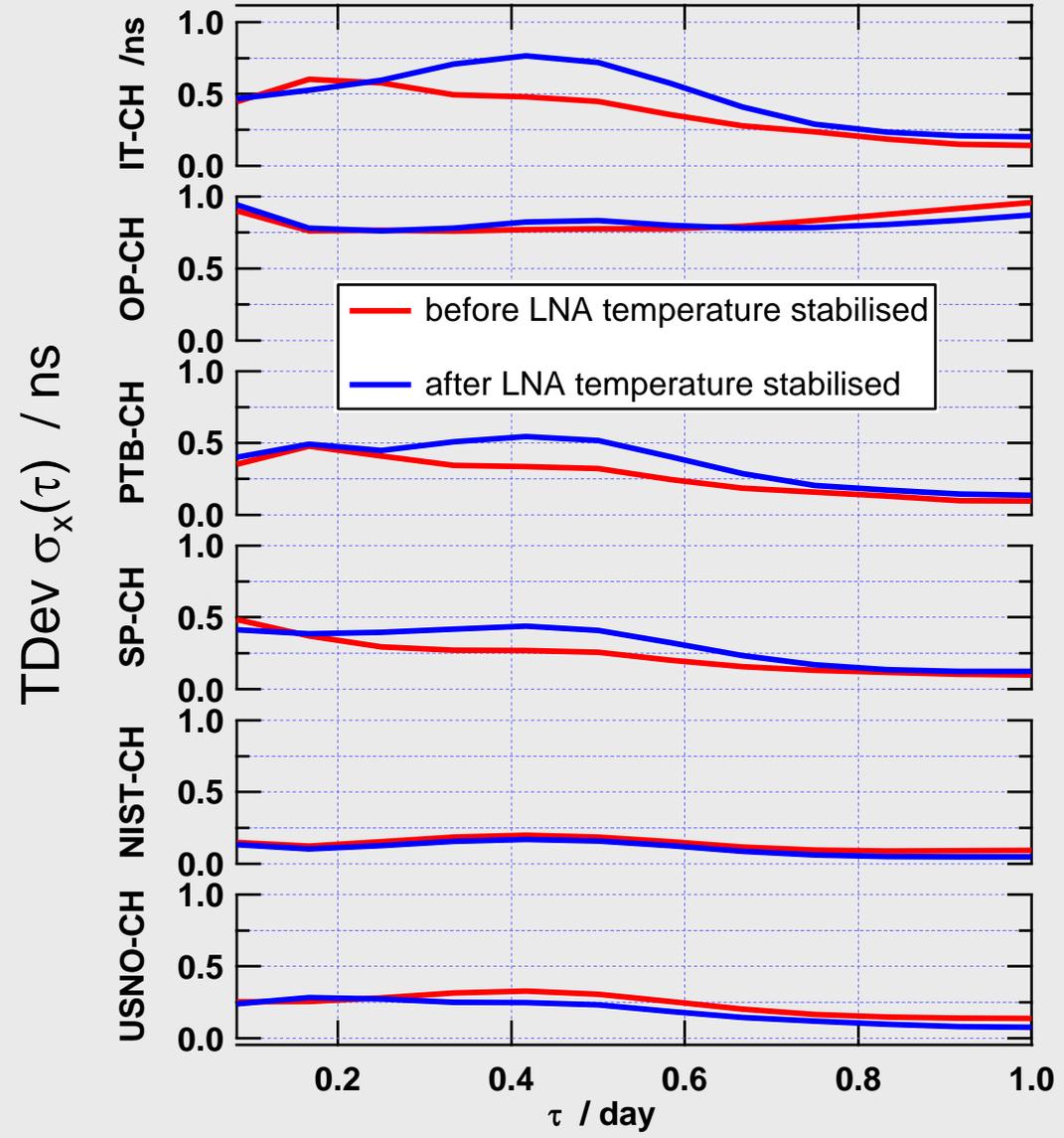


Residual to Poly-Fit of UTC(LAB)-Maser(CH)





TDev from Residual to Poly-Fit of UTC(LAB)-Maser(CH)



Period before LNA temperature stabilised from MJD 55650 to 55700

Period after LNA temperature stabilised from MJD 55701 to 55750

No improvements due to temperature stabilisation



Conclusion

- All active METAS TW equipment is temperature stabilised within ± 2 °C
- No improvement on Diurnal effects could be observed
- Diurnals don't seem to be due to station temperature variations