

# 54th CGSIC Meeting - Timing Subcommittee

**Tampa, Florida, 8 September 2014**

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Chair: **Włodzimierz Lewandowski, ESA PB-Nav**

Co-Chair: **Victor Zhang, NIST**

**2:00 Introduction** – *Włodzimierz Lewandowski, ESA PB-Nav*

**2:10 Report from NIST** – *Victor Zhang, NIST*

**2:30 Report from USNO** – *Stephen Mitchell, USNO*

**3:00 Report from APL** – *Mihran Miranian, APL*

**3:20 Coffee Break**

**3:40 The NTSC contribution to BeiDou System Time** – *LU Xiaochun, WU Haitao, NTSC*

**4:00 Modelling the GPS+Galileo+Egnos Constellation** – *Mathias Suess, DLR*

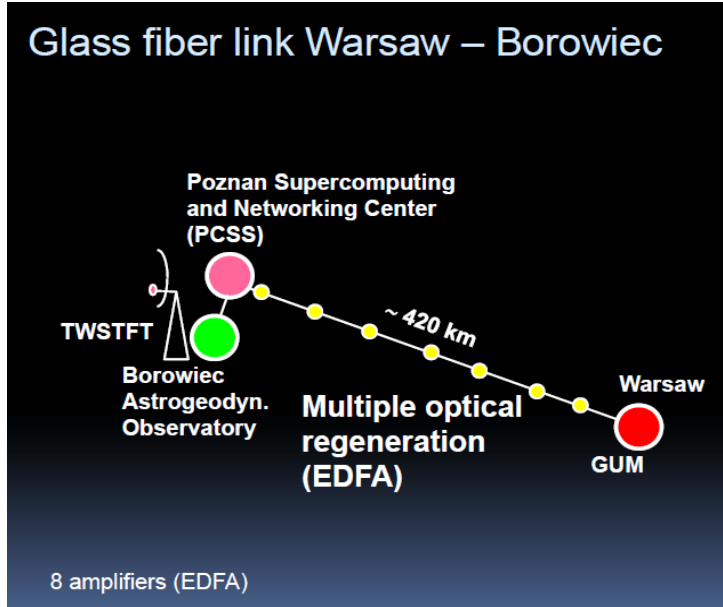
**4:20 A Common Clock Reference For All GNSS** – *Tom Stansell, Stansell Consulting*

**4:40 Comments on the Debate over the Proposal to Redefine UTC** – *Demetrios Matsakis, USNO*

**5:10 Discussion**

**5:30 Session End**

# Oncoming: Optical Fibre

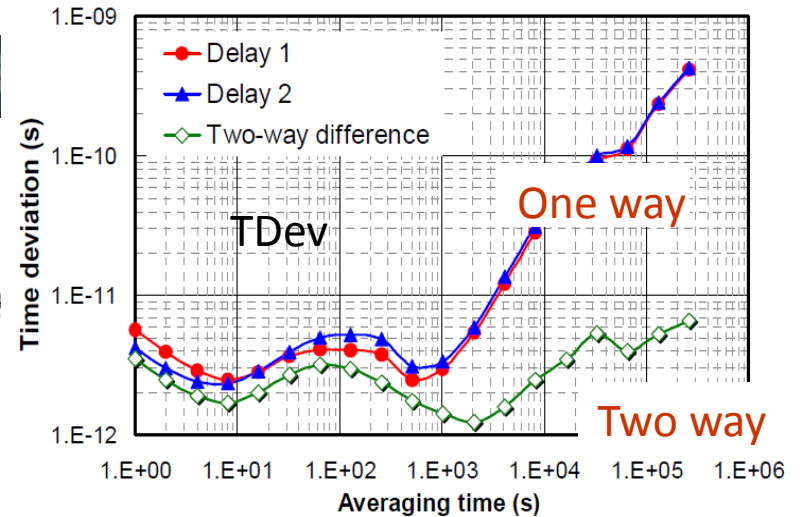
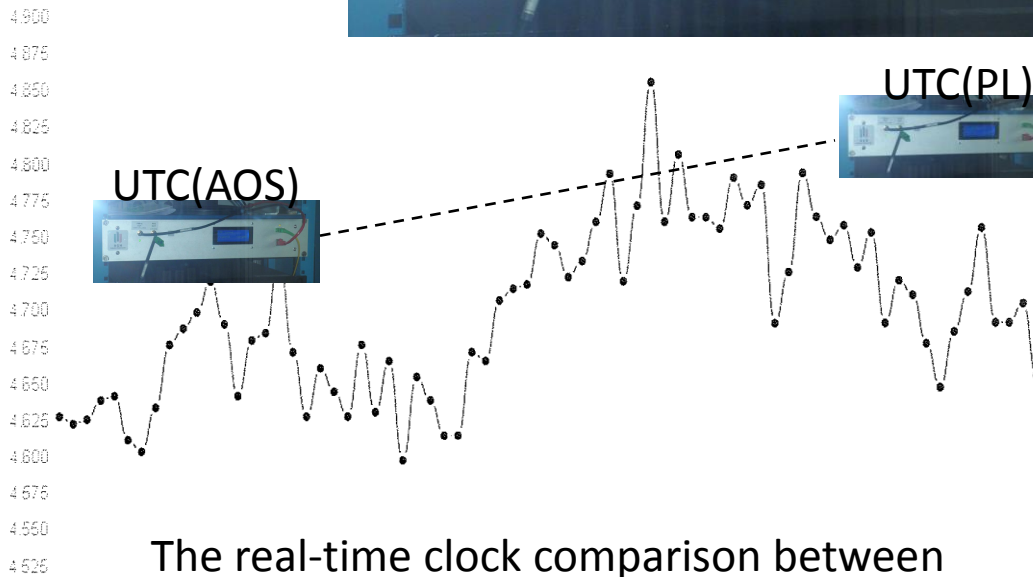
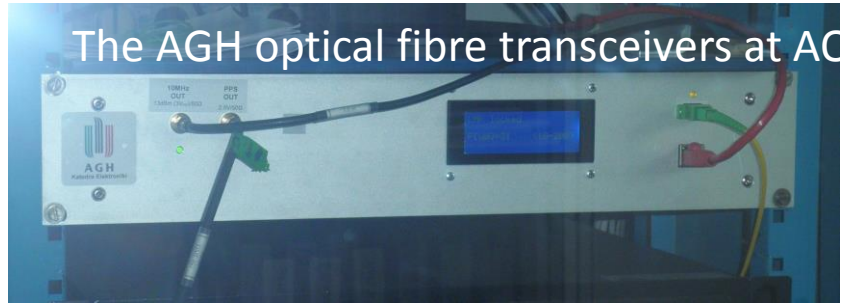


	determined quantity	estimate	sensitivity coefficient	standard uncertainty	uncertainty contribution
1	$\tau_{UTC(PL) \rightarrow REF}^{(a)}$	420.17 ns	1	100 ps	100 ps
2	$\tau_{REF \rightarrow RET}^{(a)}$	4 093 944.73 ns	0.5	100 ps	50 ps
3	$\tau_{\Delta\lambda}^{(b)}$	2.950 ns	0.5	19 ps	9.5 ps
4	$\tau_S^{(c)}$	-1.686 ns	0.5	5 ps	2.5 ps
5	$\tau_B^{(d)}$	0 ns	0.5	1.2 ps	0.6 ps
6	$\tau_H^{(e)}$	26.565 ns	0.5	8.8 ps	4.4 ps
$\tau_{UTC(PL) \rightarrow OUT}$		2 047 406.45 ns	complex uncertainty:		112.3 ps

First Operational Optical Fibre Time Link  
 420 km between UTC Laboratories AOS-PL  
**Combined uncertainty 112 ps**

# Oncoming: Optical Fibre

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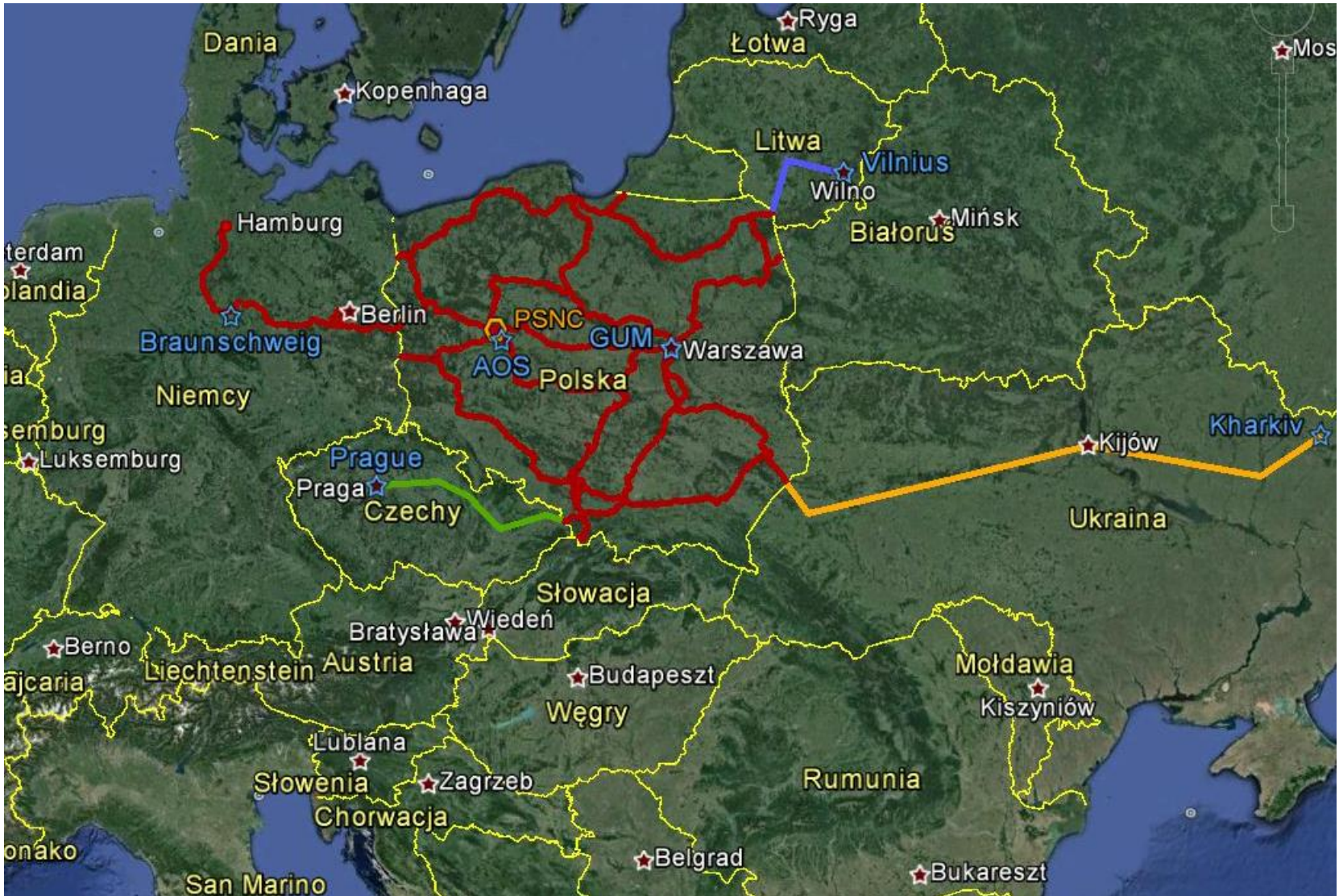


The real-time clock comparison between UTC(AOS) and UTC(PL) through a fibre link, [www.optime.org.pl/node/47](http://www.optime.org.pl/node/47)

25 km fibre experiment at TL

# PIONIER INTERNATIONAL CONNECTIOS

*(courtesy of Pionier International)*



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