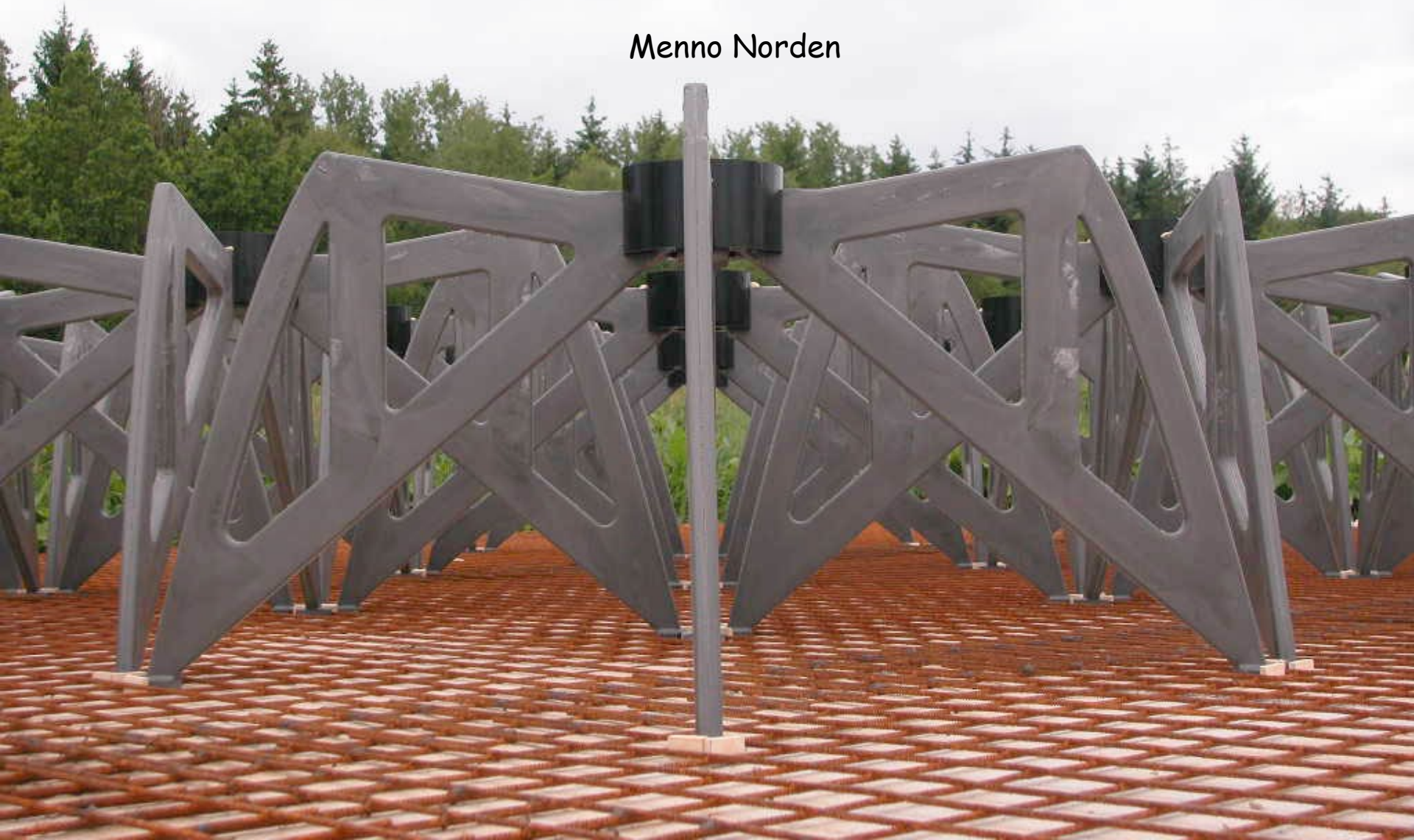


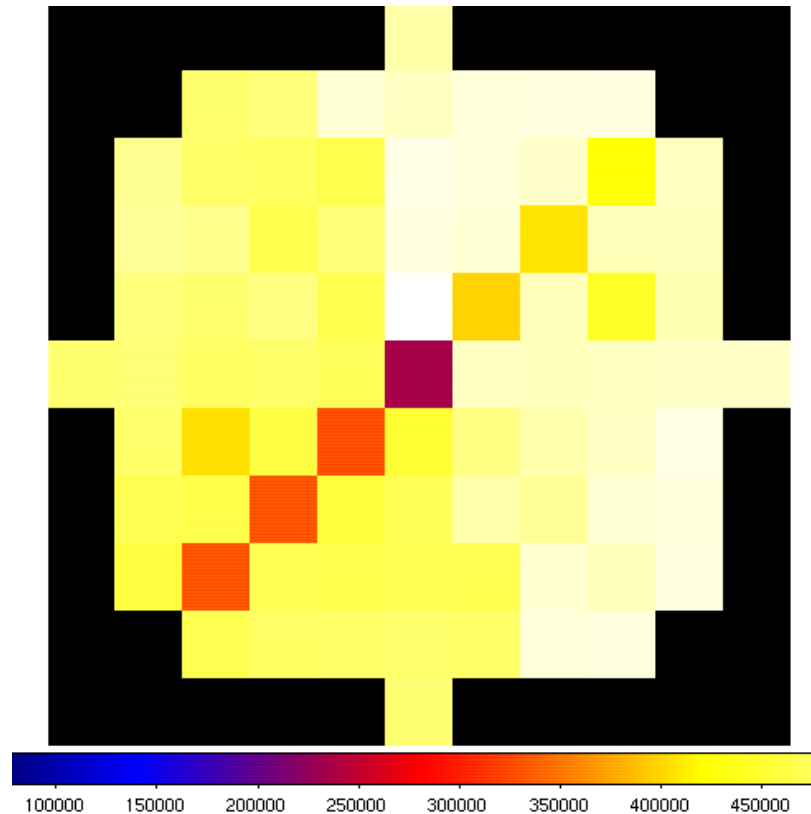
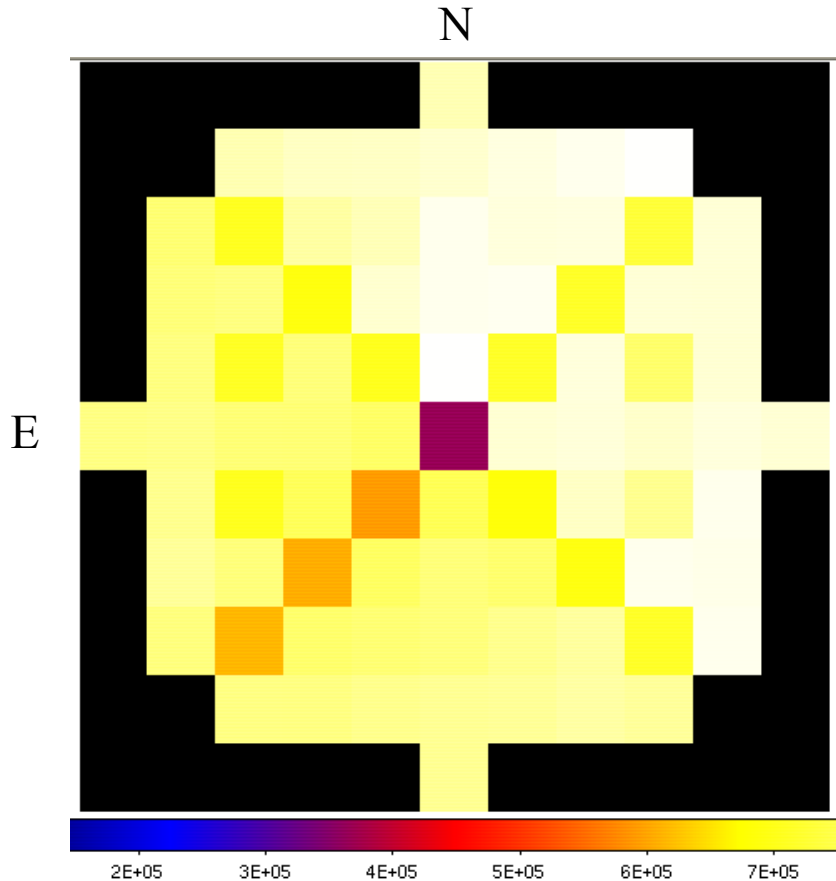
HBA beam control validation

31 Oct 2007

Menno Norden



HBA beam control validation (Exloo 6 Tiles)



HBA beam control validation

- ◆ Beam output in Exloo was unexpected (M.Brentjes)
 - ⊕ Large signal dip at zenith was found (all Tiles)?
 - ⊕ A Cross with low signal was found on the sky?
- ◆ Validation of the beamcontrol was necessary
- ◆ Check's done
 - ⊕ Astr. coordinates to delay conversion √
 - ⊕ Modem communication with tile √
 - ⊕ Delays via Beamctl (I2C ok, but delays incorrect)

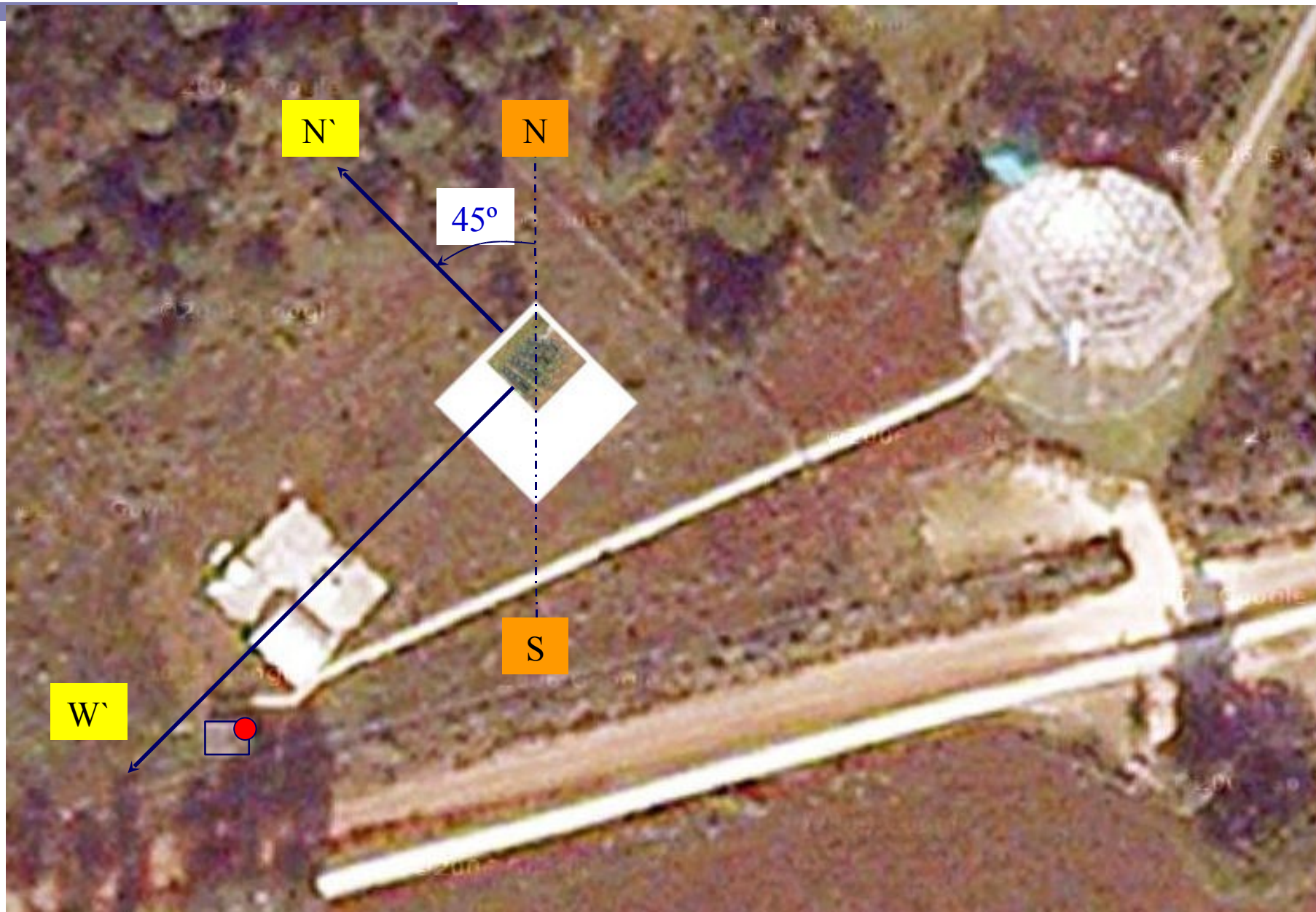
HBA beam control validation

- ◆ Delay is correct calculated but not send to Tile?

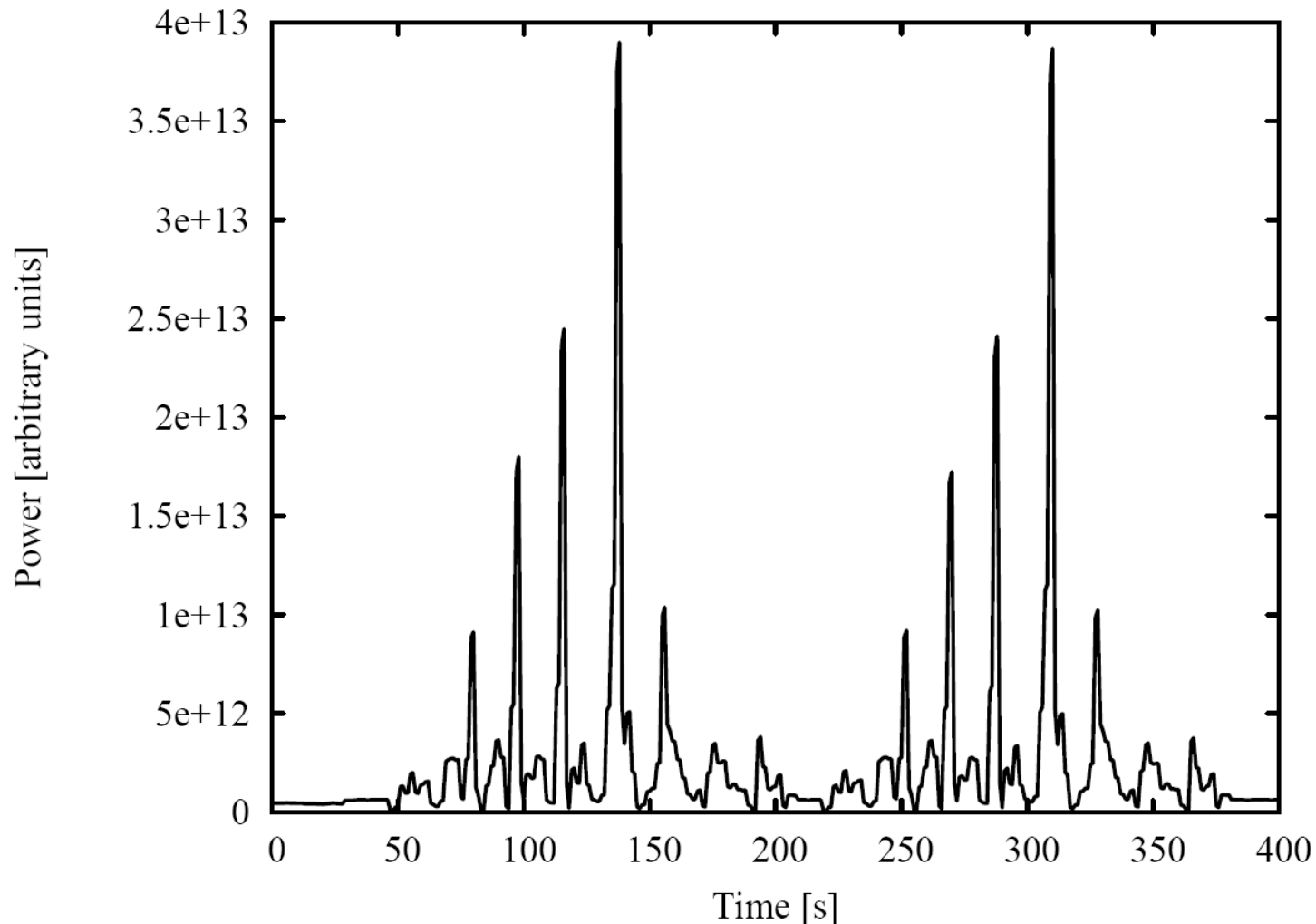
	x	y		Beamctl
B7	on/off	on/off		0
B6	8 nS	8 nS		0
B5	4 nS	4 nS		0
B4	2 nS/off	2 nS/off		8 nS
B3	1 nS	1 nS		4 nS
B2	0.5 nS	0.5 nS		2 nS
B1	(0.25 nS)	(0.25 nS)		1 nS
B0	led	x		0.5 nS

- ◆ 3nS (beamctl 00000110)
(correct 10011000, *4 +128)

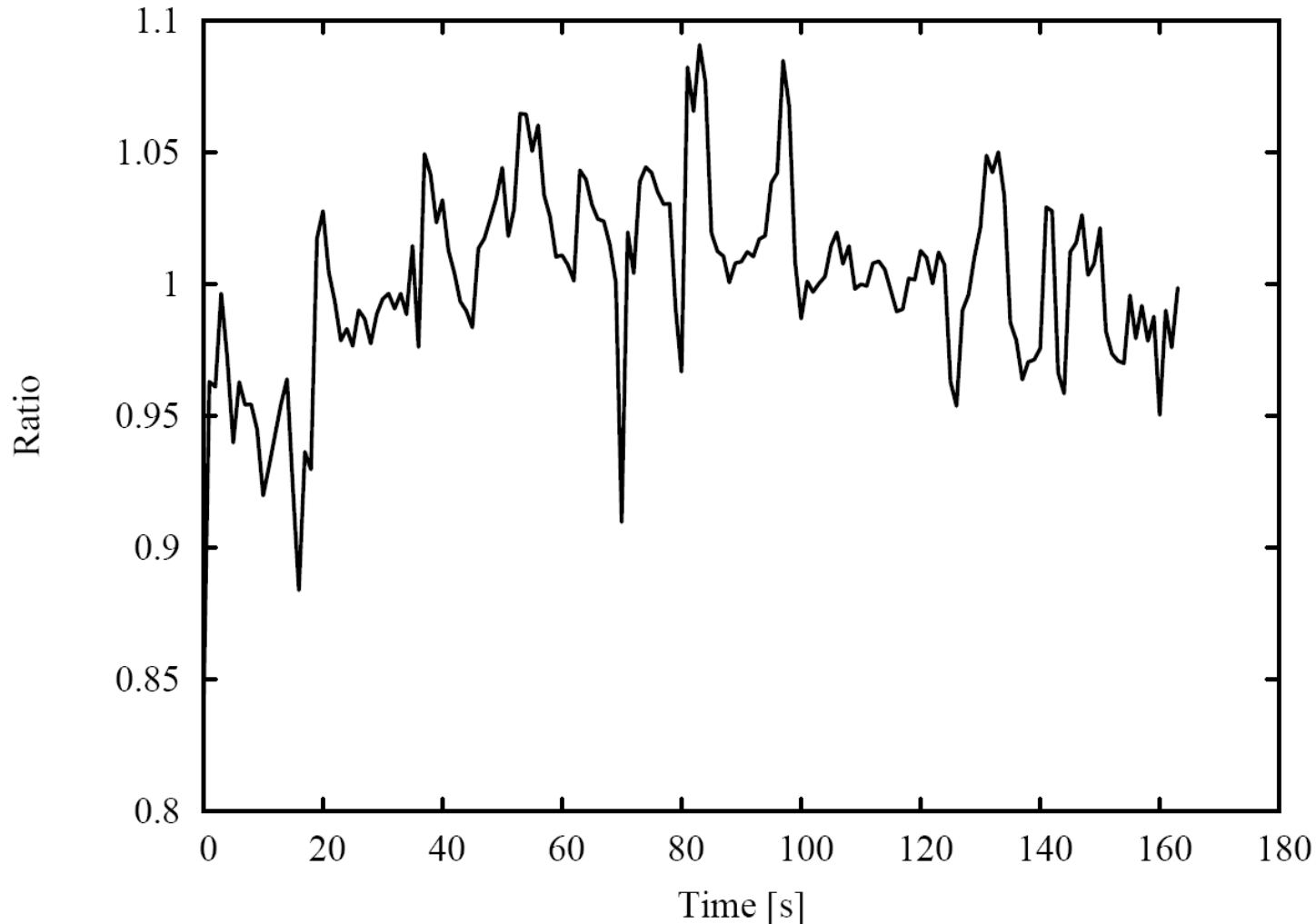
HBA beam control validation (Dwingeloo)



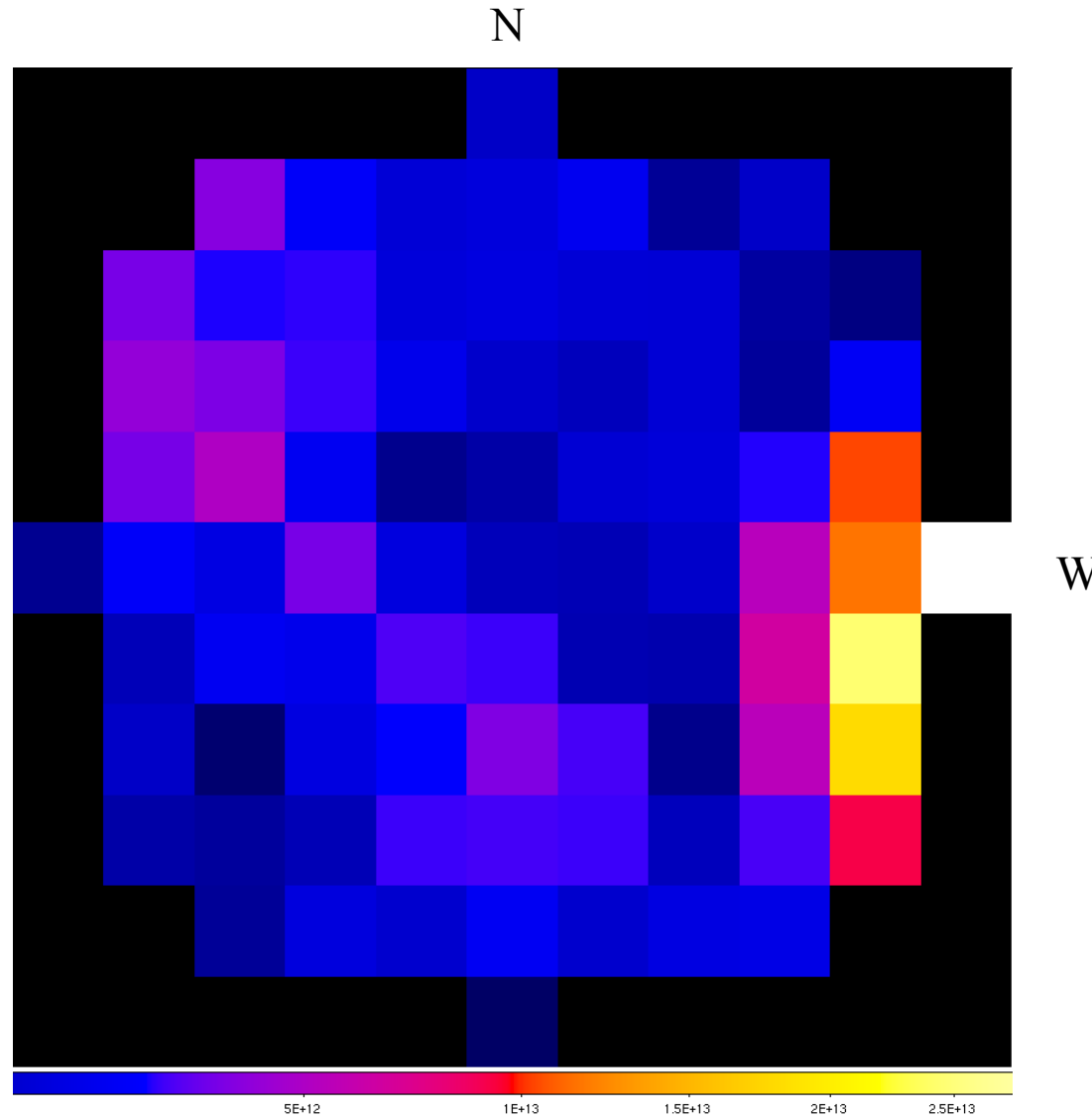
HBA beam control validation (Dwingeloo)



HBA beam control validation (Dwingeloo)



HBA beam control validation (Dwingeloo)



HBA beam control validation

- ◆ Level Exloo E⁵ and Dwingeloo E¹²
 - ⊕ Strong TX signal at 150 MHz
- ◆ New scans
 - ⊕ With higher resolution (81 positions, 1 sec int.)
 - ⊕ Lower TX power
 - ⊕ Without TX and on/off circuit off.
- ◆ New scans with repaired Tiles in Exloo