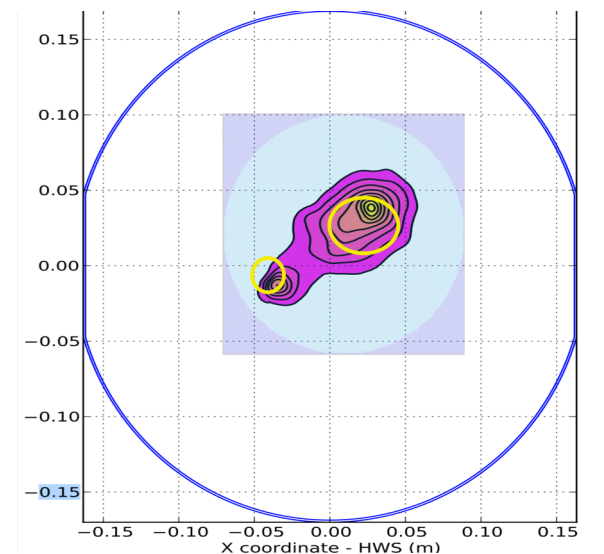
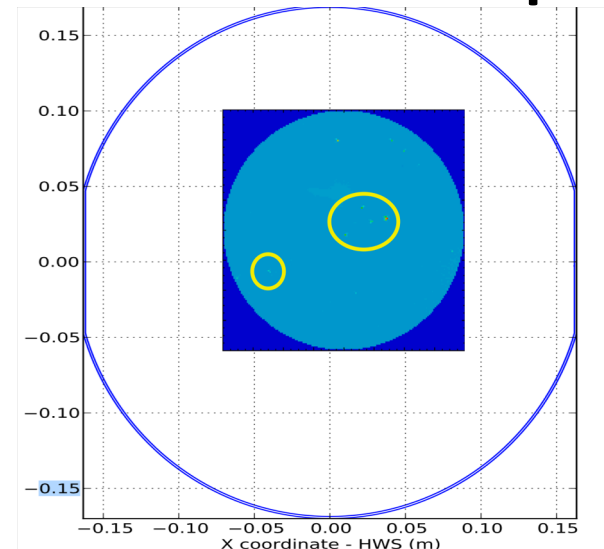


Compare HWS measurements of current optics to transmission maps

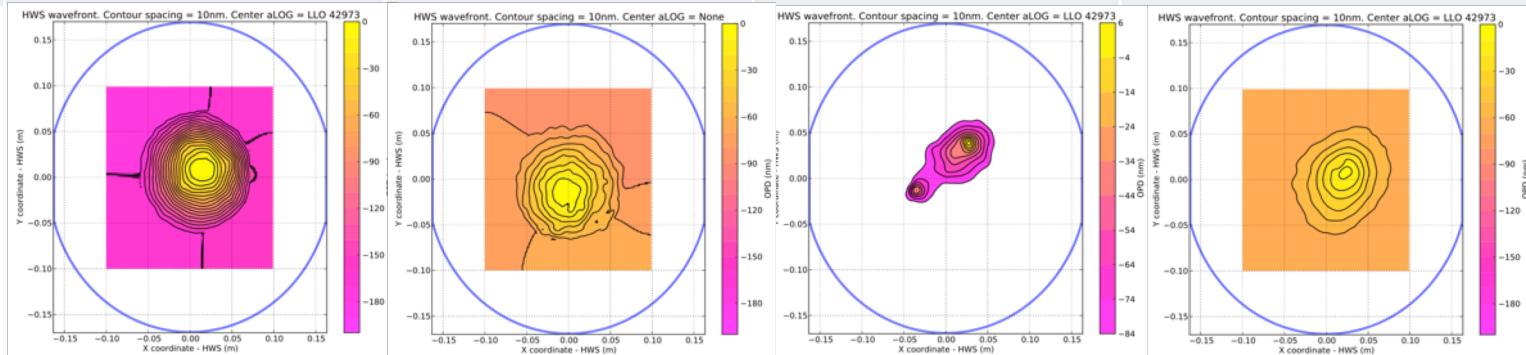
- Correlation between the transmission map and the HWS absorption map has been noted on ETM10, O3 LLO ETMx
- The blue TM outline on the HWS data is approximate in all cases
 - HWS maps stolen from G1900203
 - Transmission maps cite DCC#



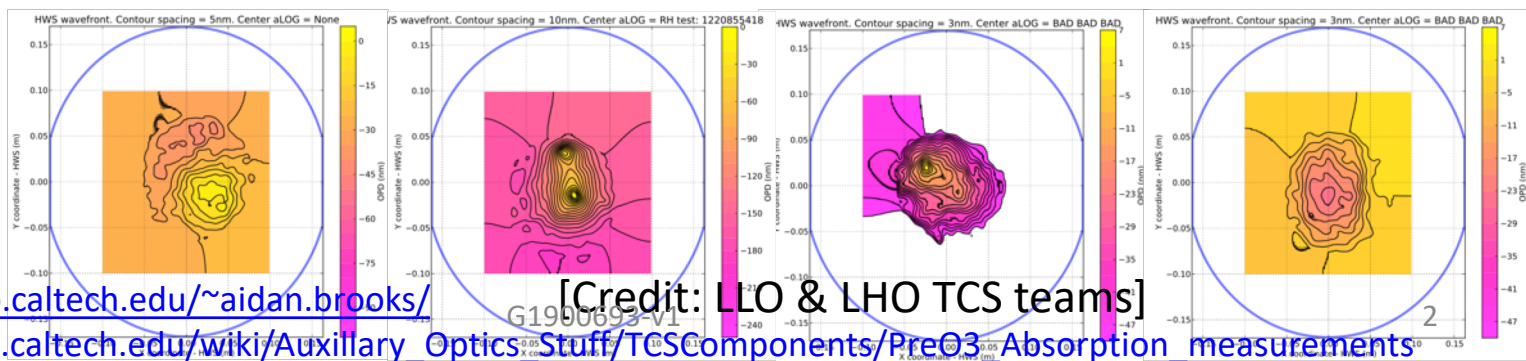
Compare HWS measurements of current optics to transmission maps

	ITMX	ITMY	ETMX	ETMY
L1 – abs status	Uniform	Uniform	Point	Points
HWS Abs value	[0.6ppm]	[0.7-0.8ppm]	[0.1ppm]	0.14 or 0.35ppm*
Optic SN	ITM04	ITM08	ETM10	ETM15
Trans. Map link	https://dcc.ligo.org/E1200702	https://dcc.ligo.org/E1200575	https://dcc.ligo.org/E1500299	https://dcc.ligo.org/E1500301
H1 – abs status	Uniform?	Point	Point	Inconclusive
HWS Abs value	[0.2-0.3ppm]	[0.26-0.36ppm]	[~0.25ppm]	[violates conservation of energy]
Optic SN	ITM07	ITM11	ETM13	ETM16
Trans. Map link	https://dcc.ligo.org/E1700232	https://dcc.ligo.org/E1400042	https://dcc.ligo.org/E1500300	https://dcc.ligo.org/E1500302

L1



H1

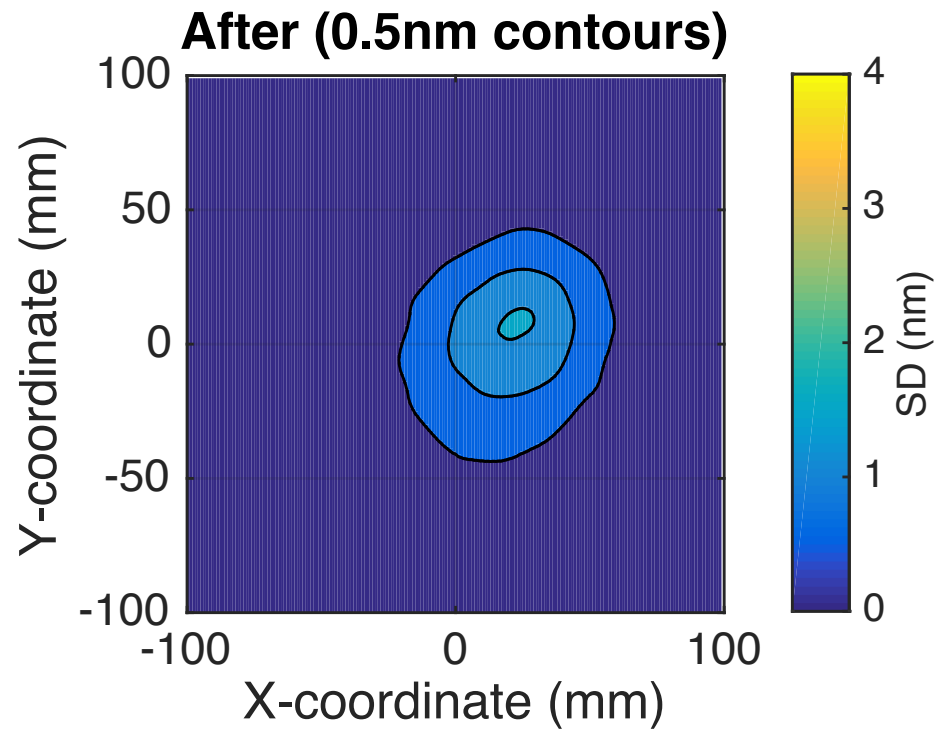
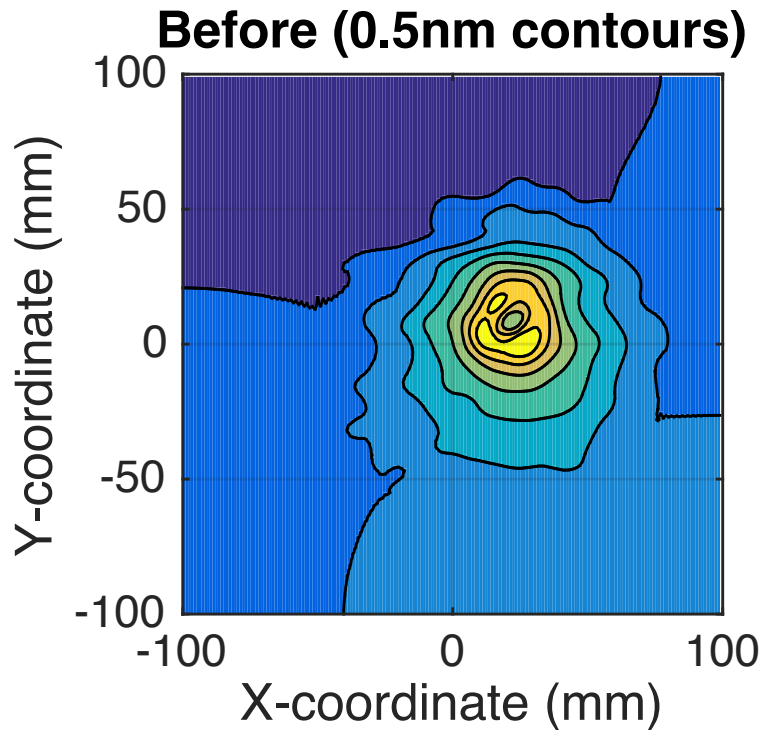


<https://ldas-jobs.ligo.caltech.edu/~aidan.brooks/>

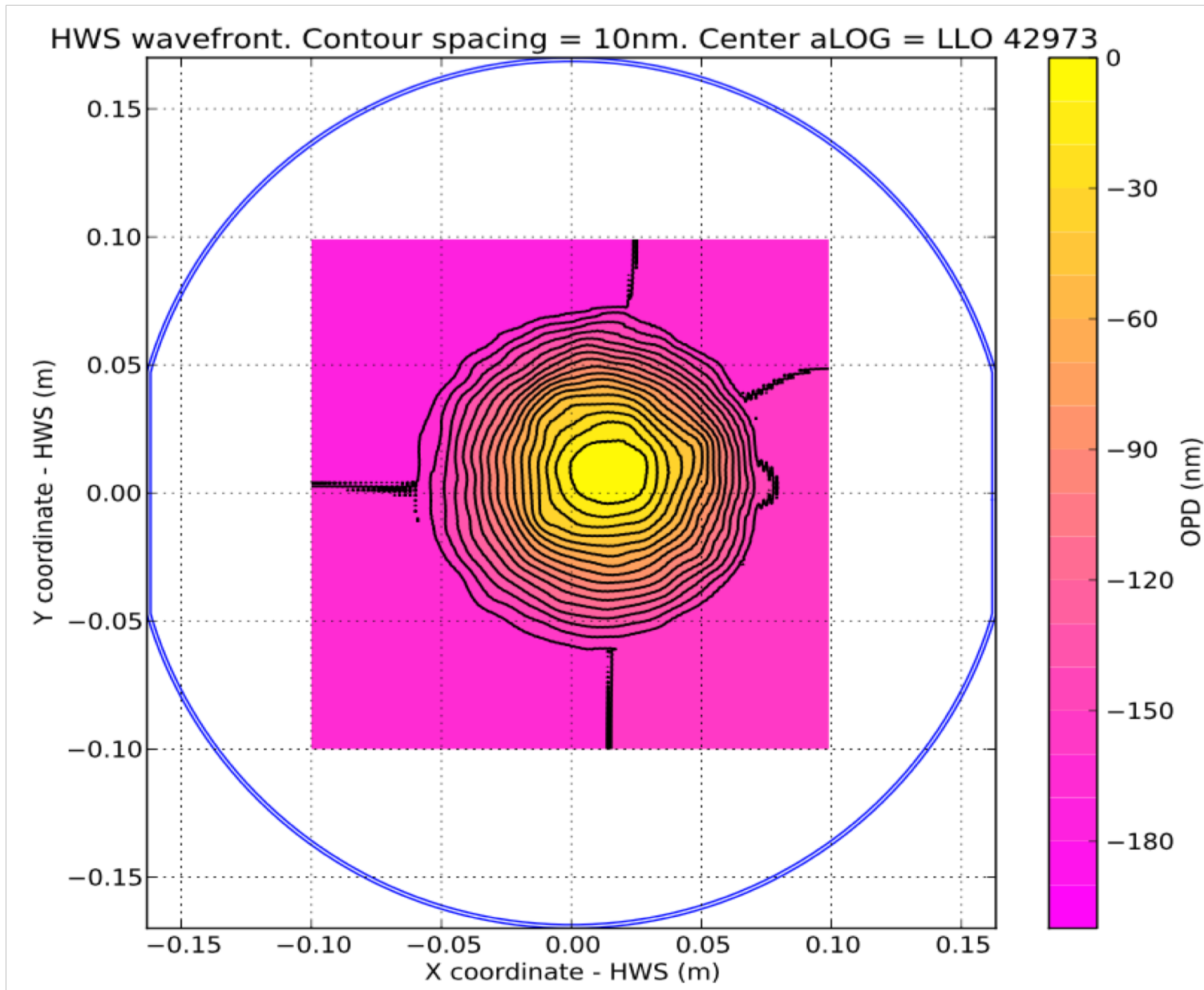
[https://awiki.ligo-wa.caltech.edu/wiki/Auxiliary Optics Stuff/TCSComponents/PreO3 Absorption measurements](https://awiki.ligo-wa.caltech.edu/wiki/Auxiliary_Optics_Stuff/TCSComponents/PreO3_Absorption_measurements)

[Credit: LLO & LHO TCS teams]

L1-ETMY surface deformation [scaled to same incident power]

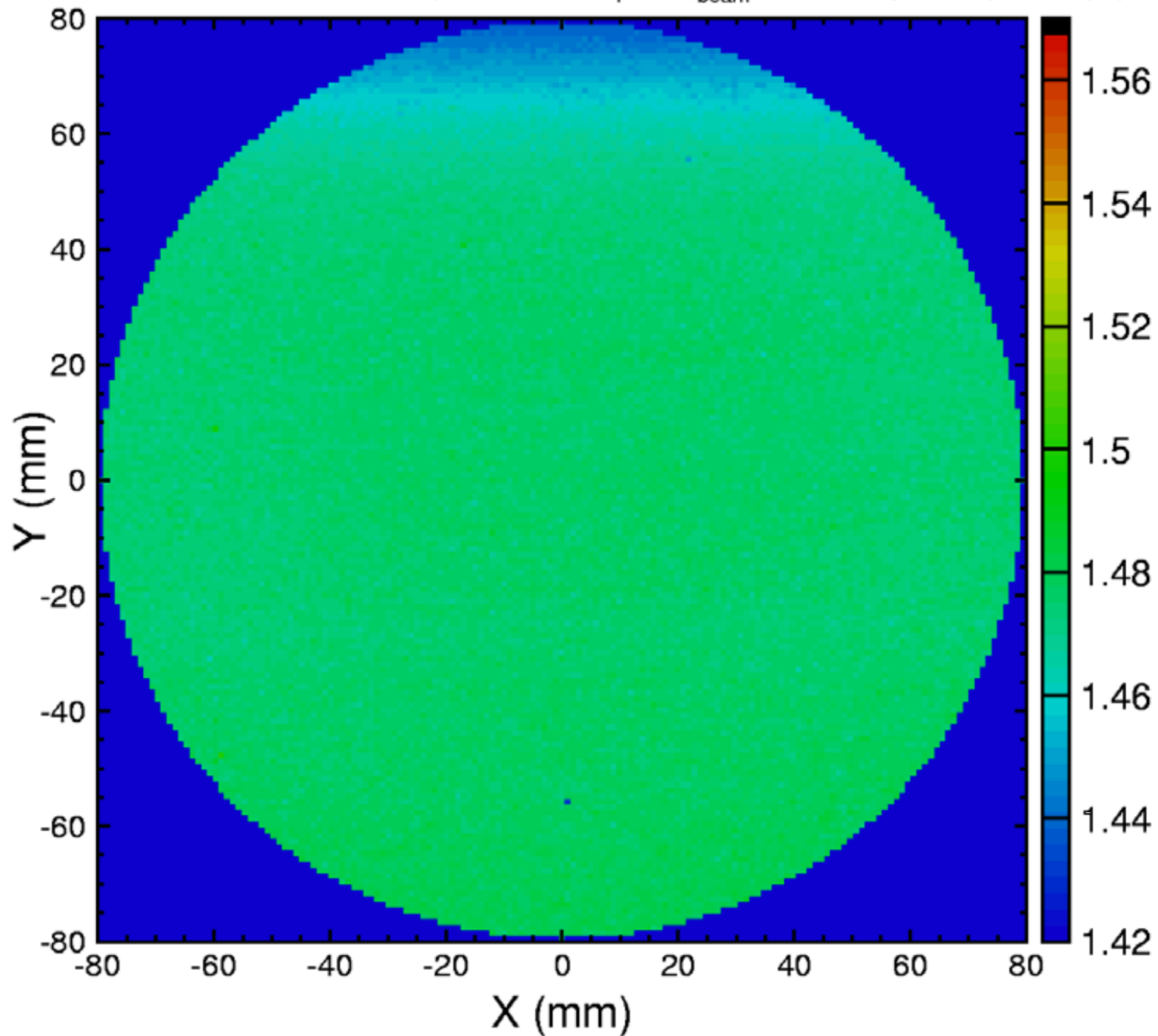


ITM04, O1, O2, O3 L1 ITMX

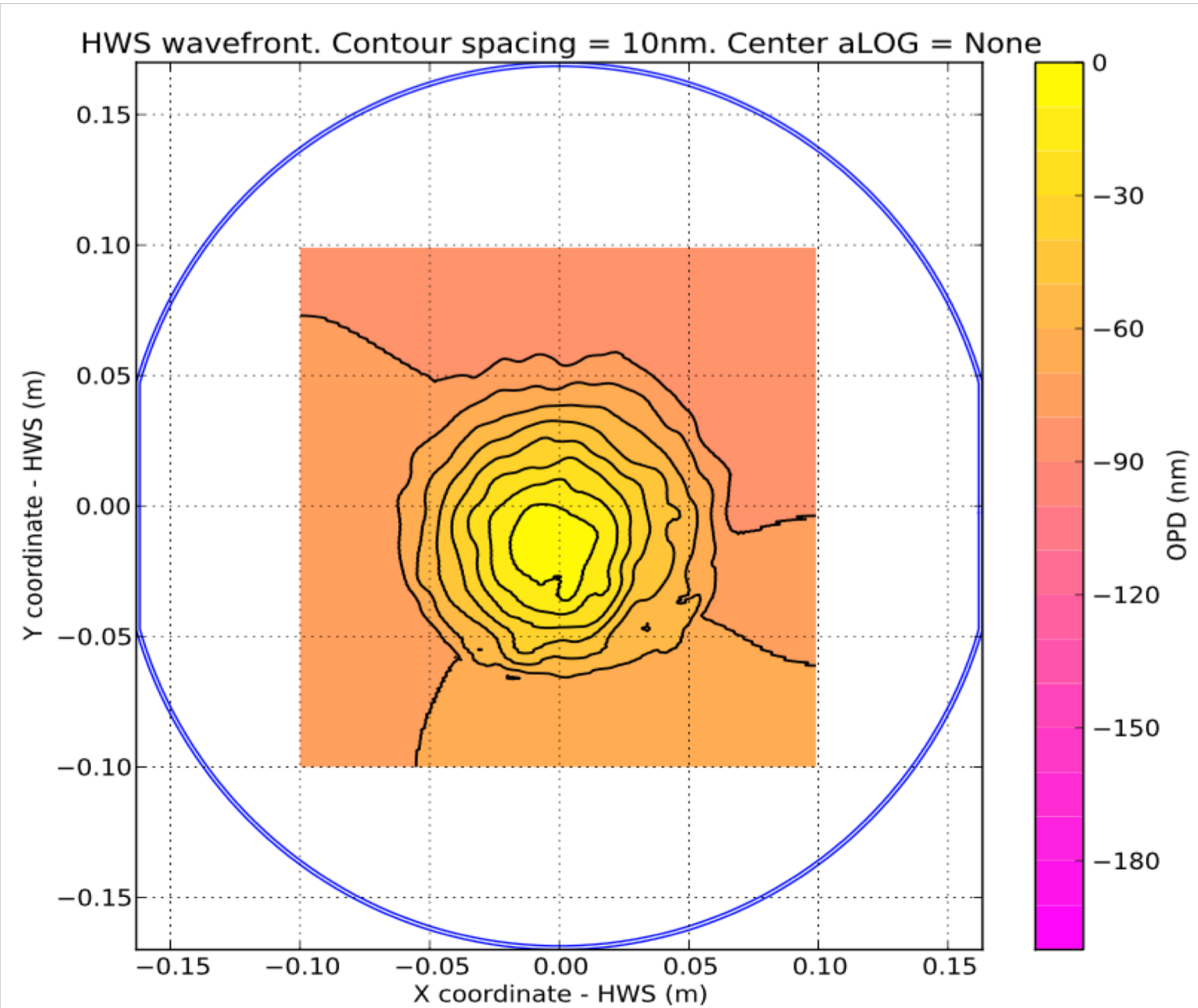


ITM04 Transmission ($\lambda=1064$ nm, $\theta_i=2^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1mm)

(%)

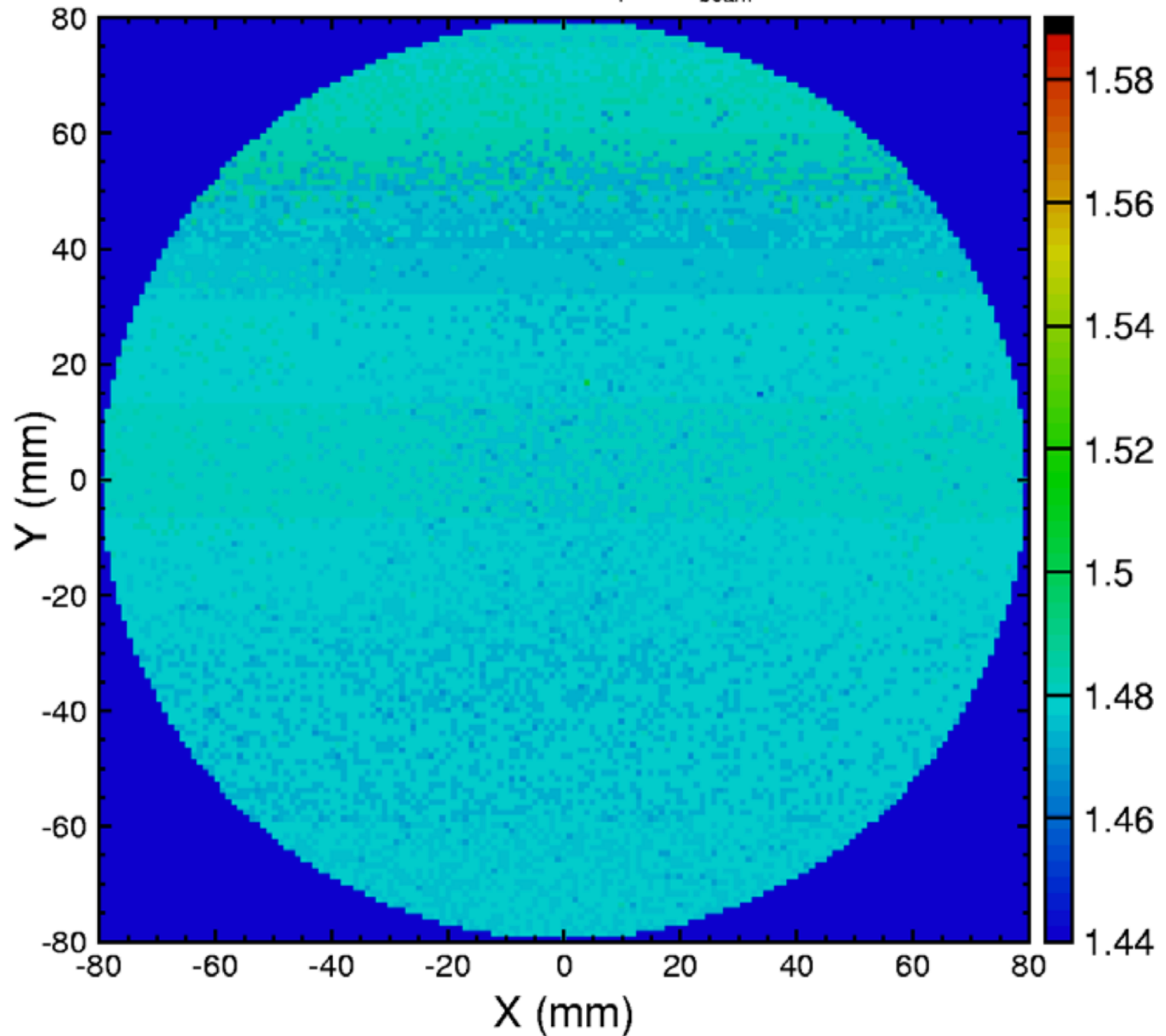


ITM08, O1, O2, O3 L1 ITMY

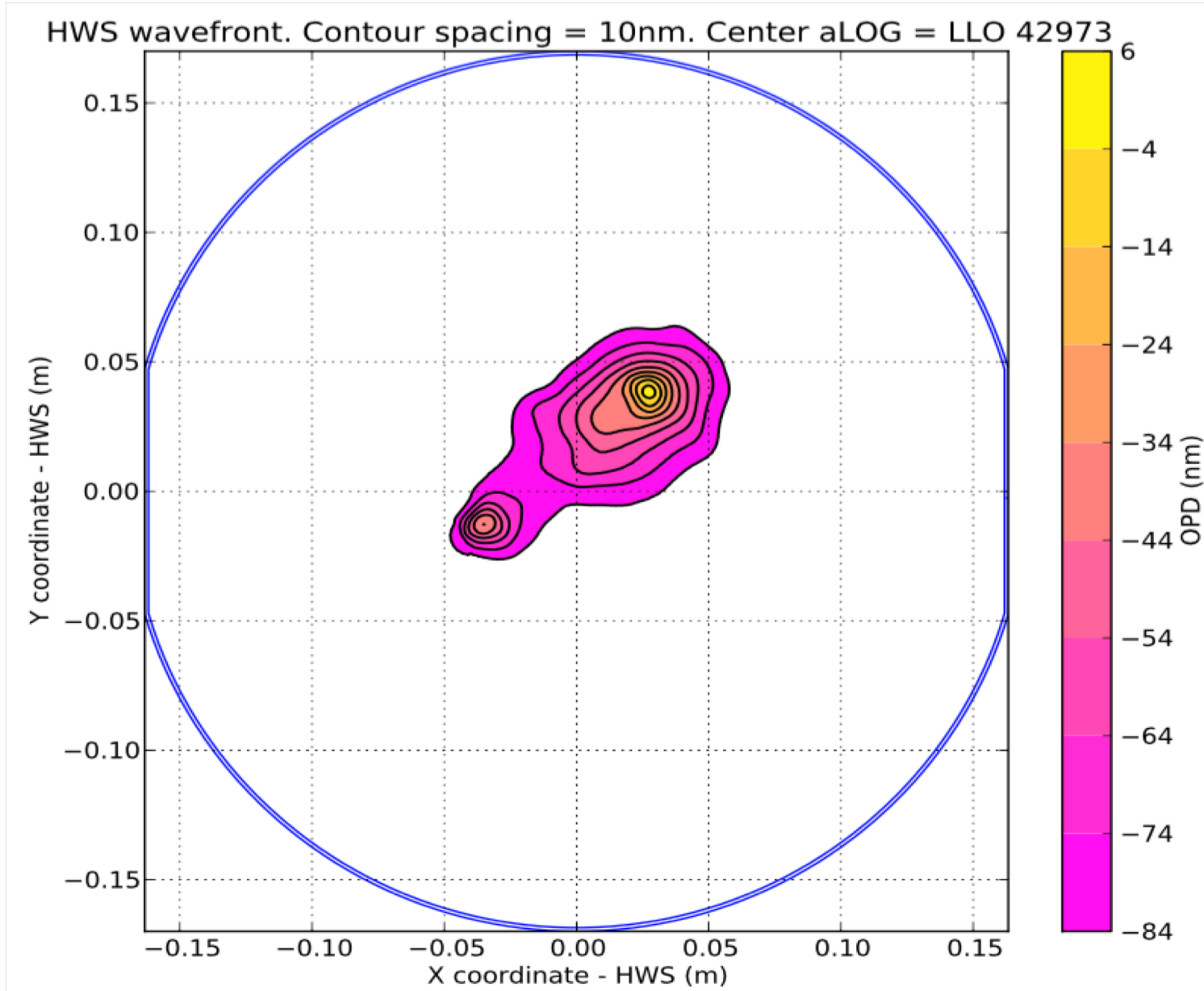


ITM08 Transmission ($\lambda=1064$ nm, $\theta_i=2^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1 mm)

(%)

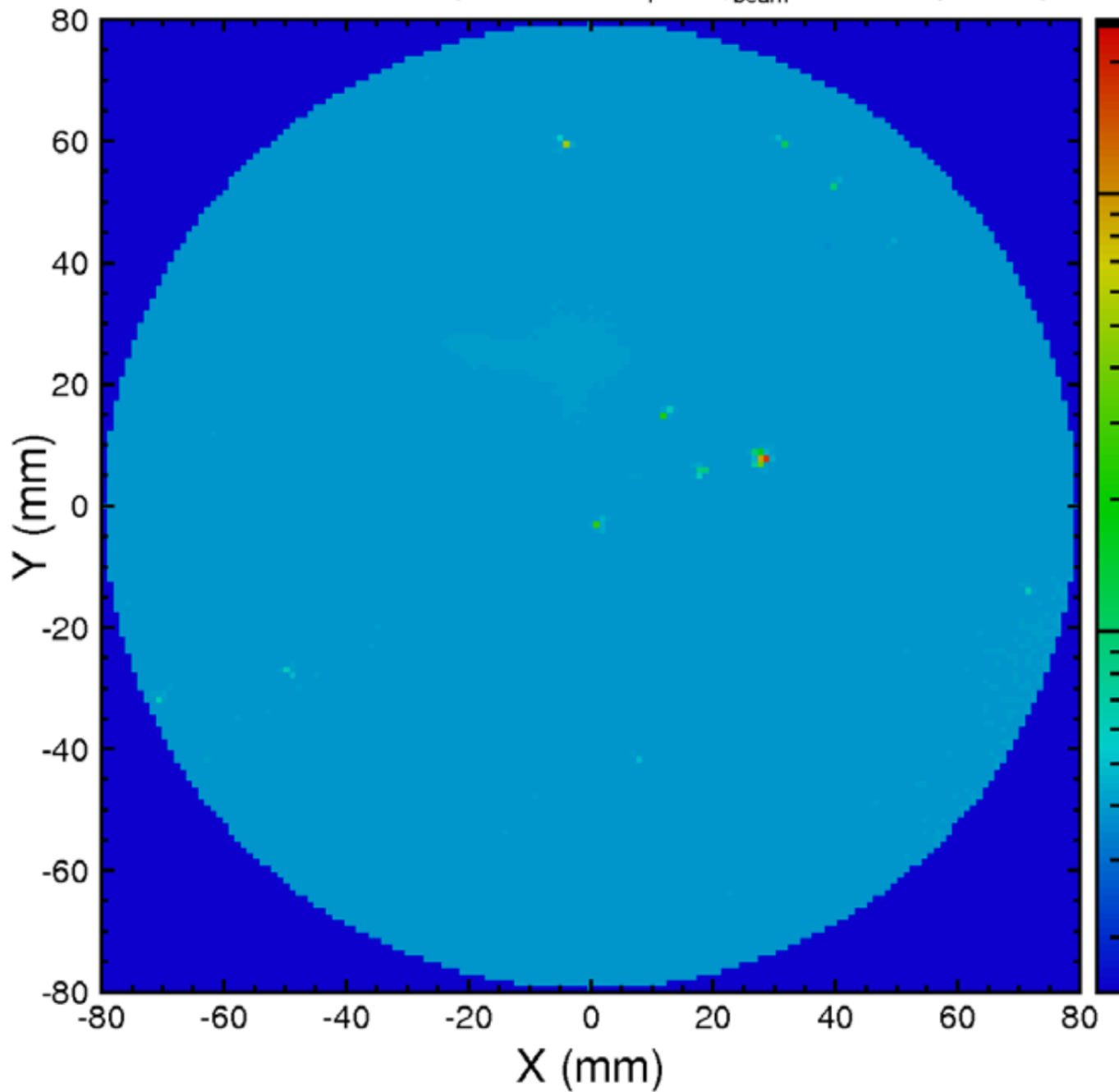


ETM10, O3 L1 ETMX

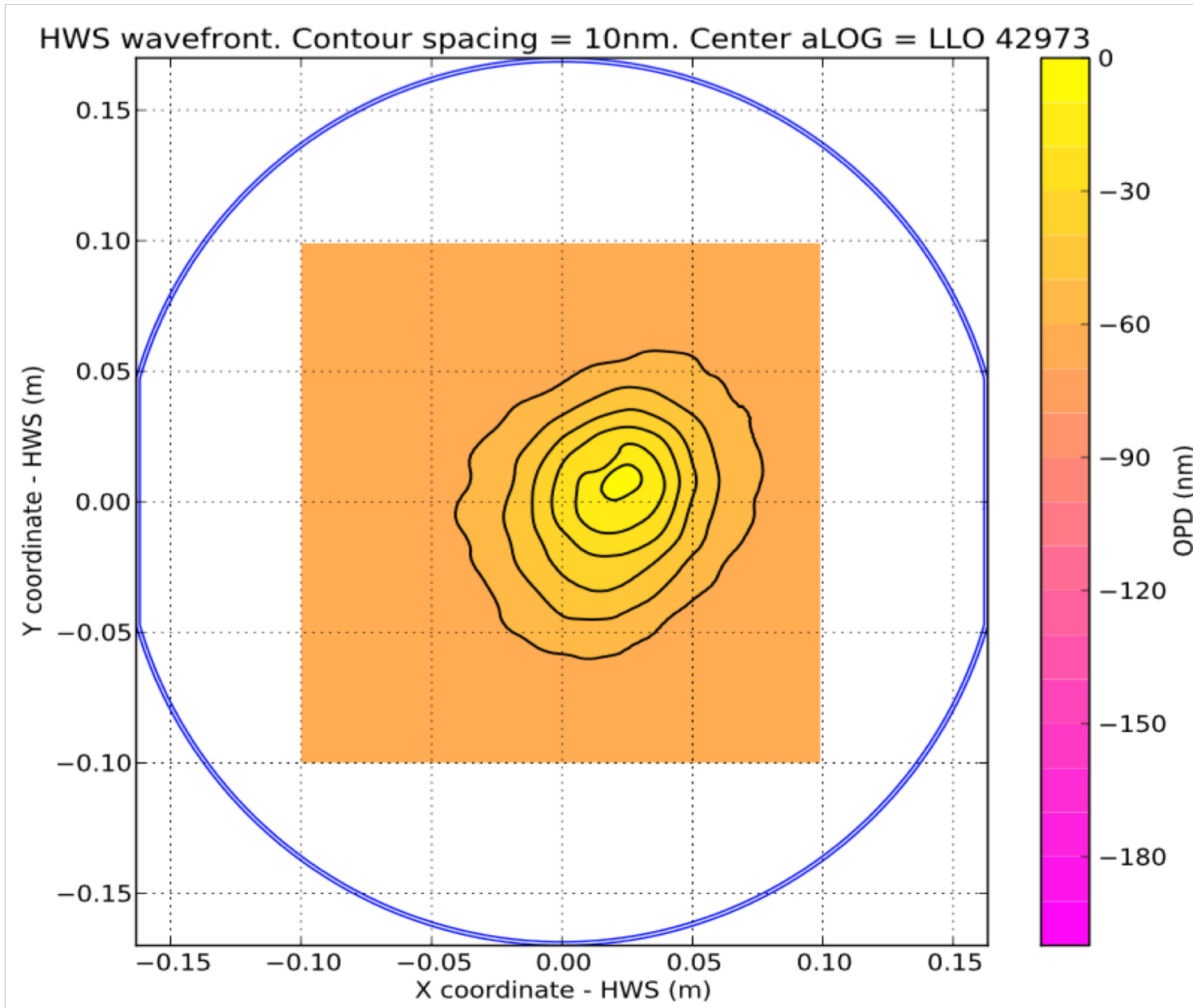


ETM10 Transmission ($\lambda=1064$ nm, $\theta_i=1^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1mm)

(ppm)

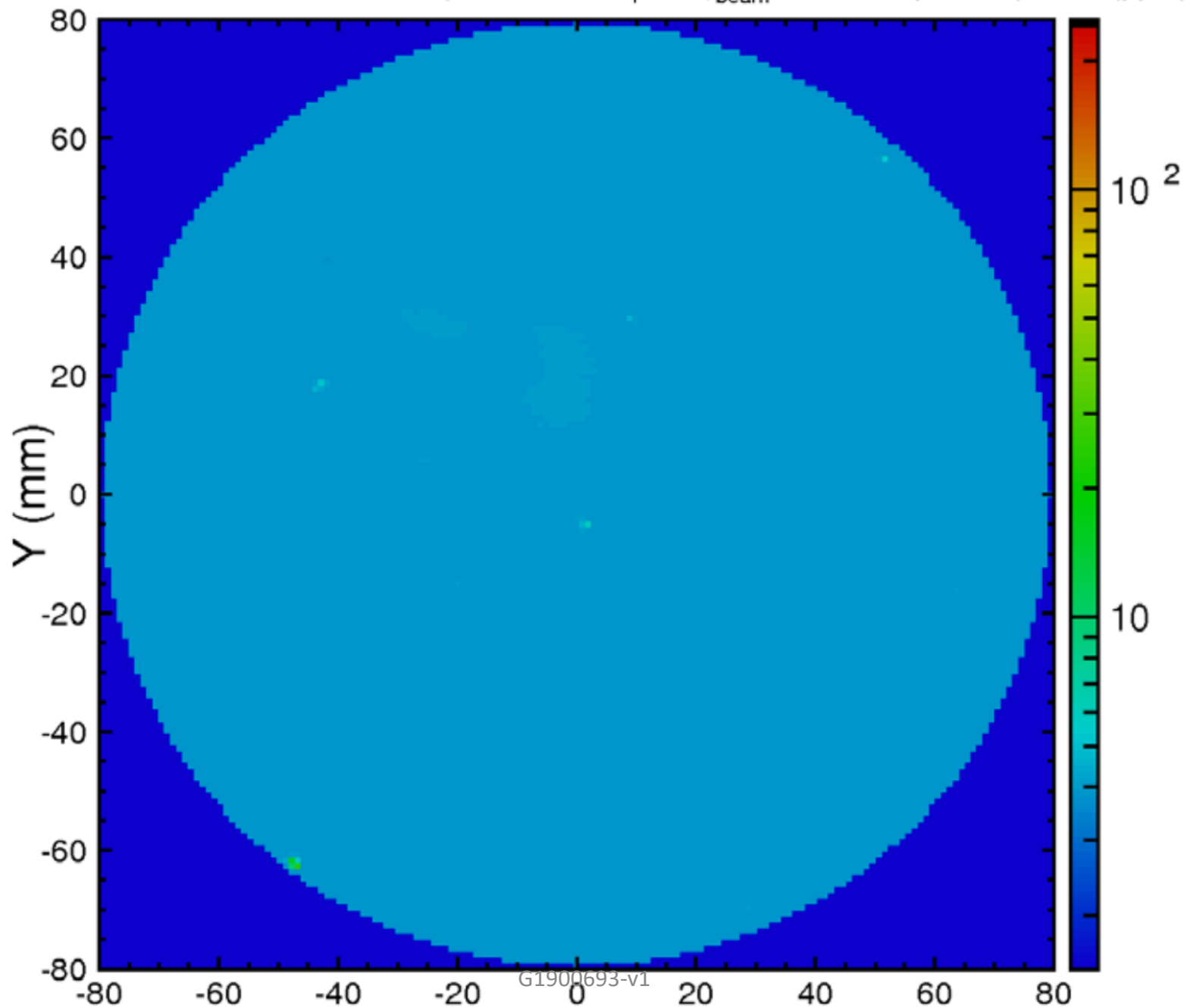


L1 ETMY-ETM15



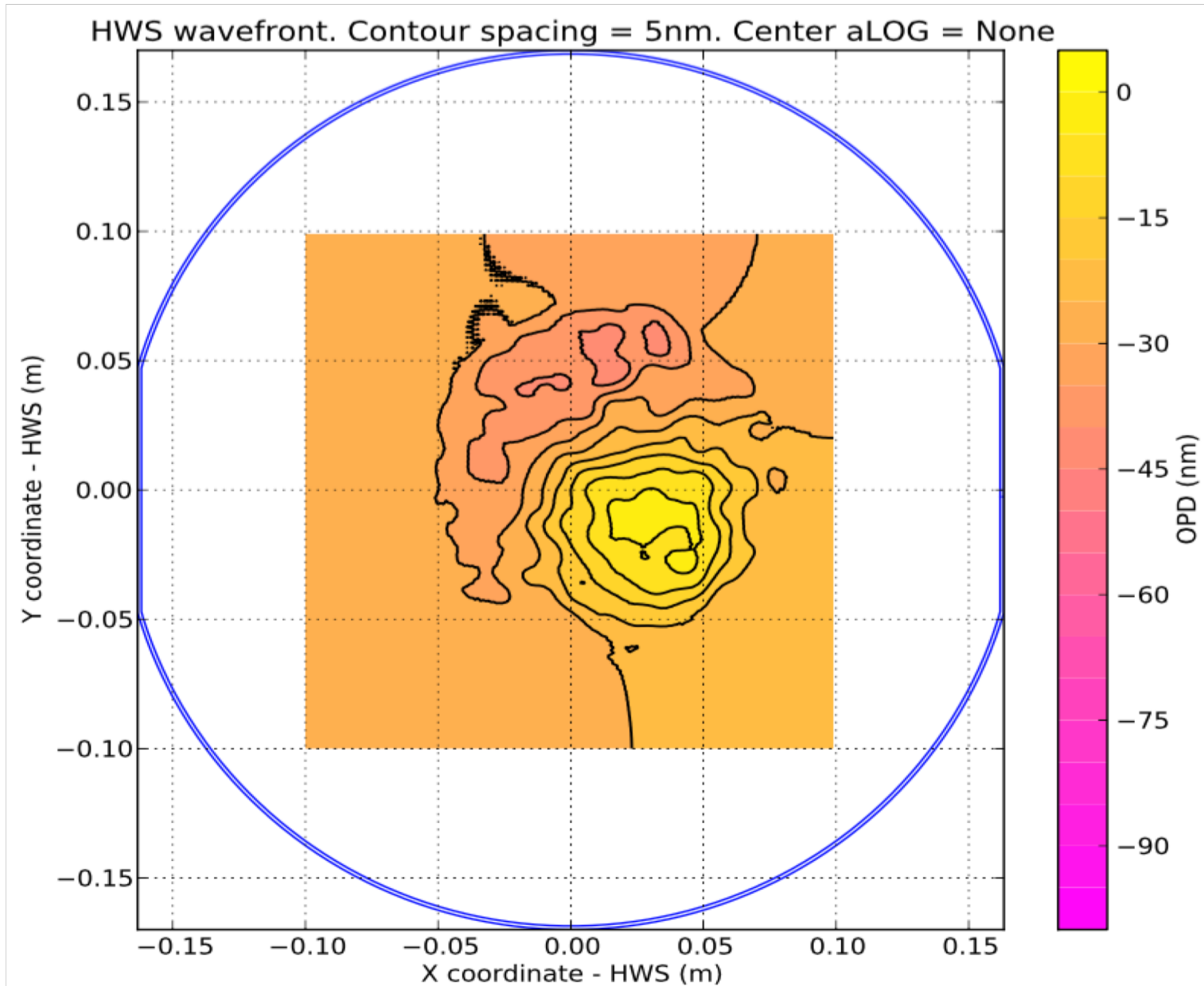
ETM15 Transmission ($\lambda=1064$ nm, $\theta_i=1^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1 mm)

(ppm)



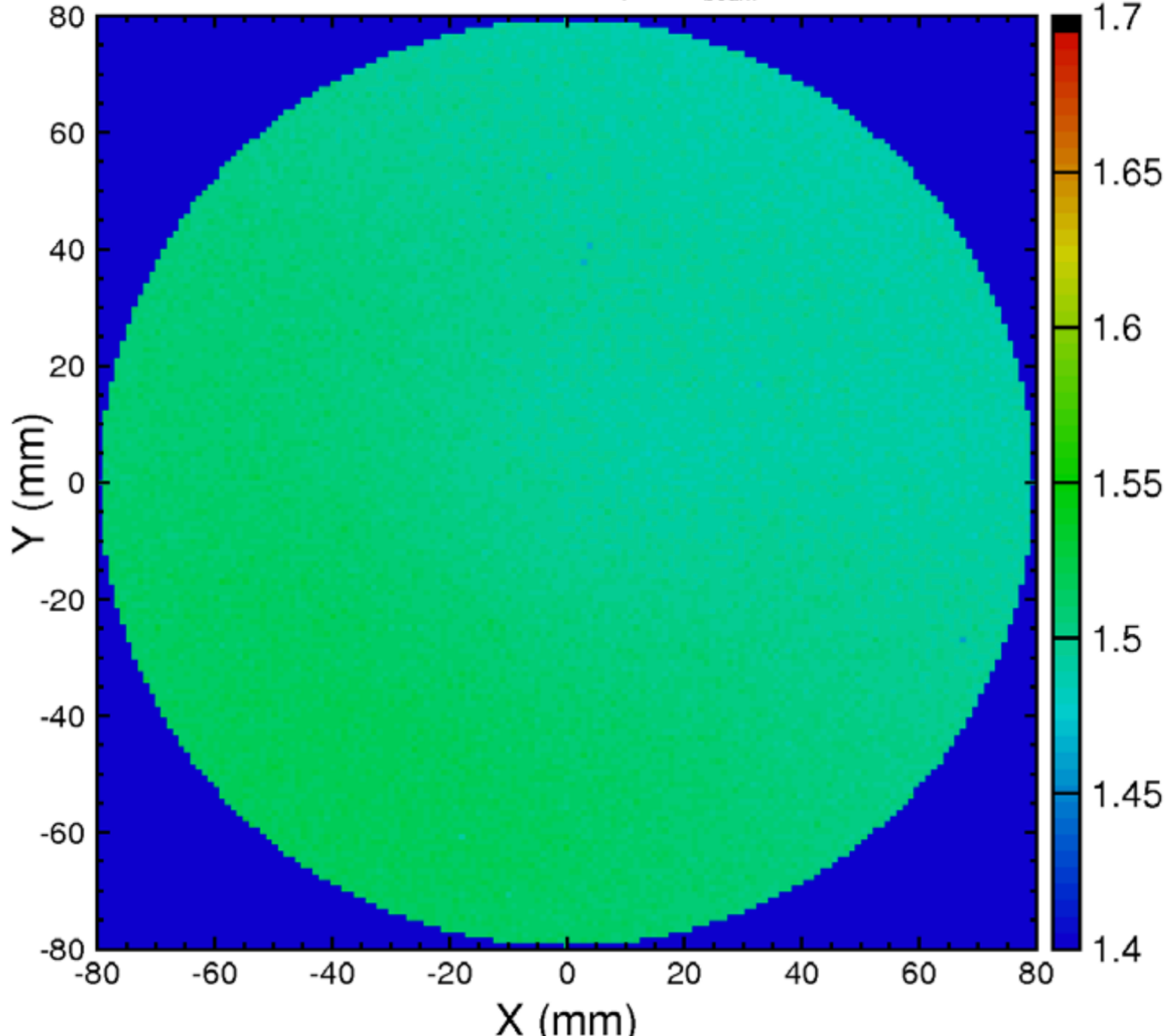
G1900693-v1

ITM07 O2partial, O3 H1 ITMX



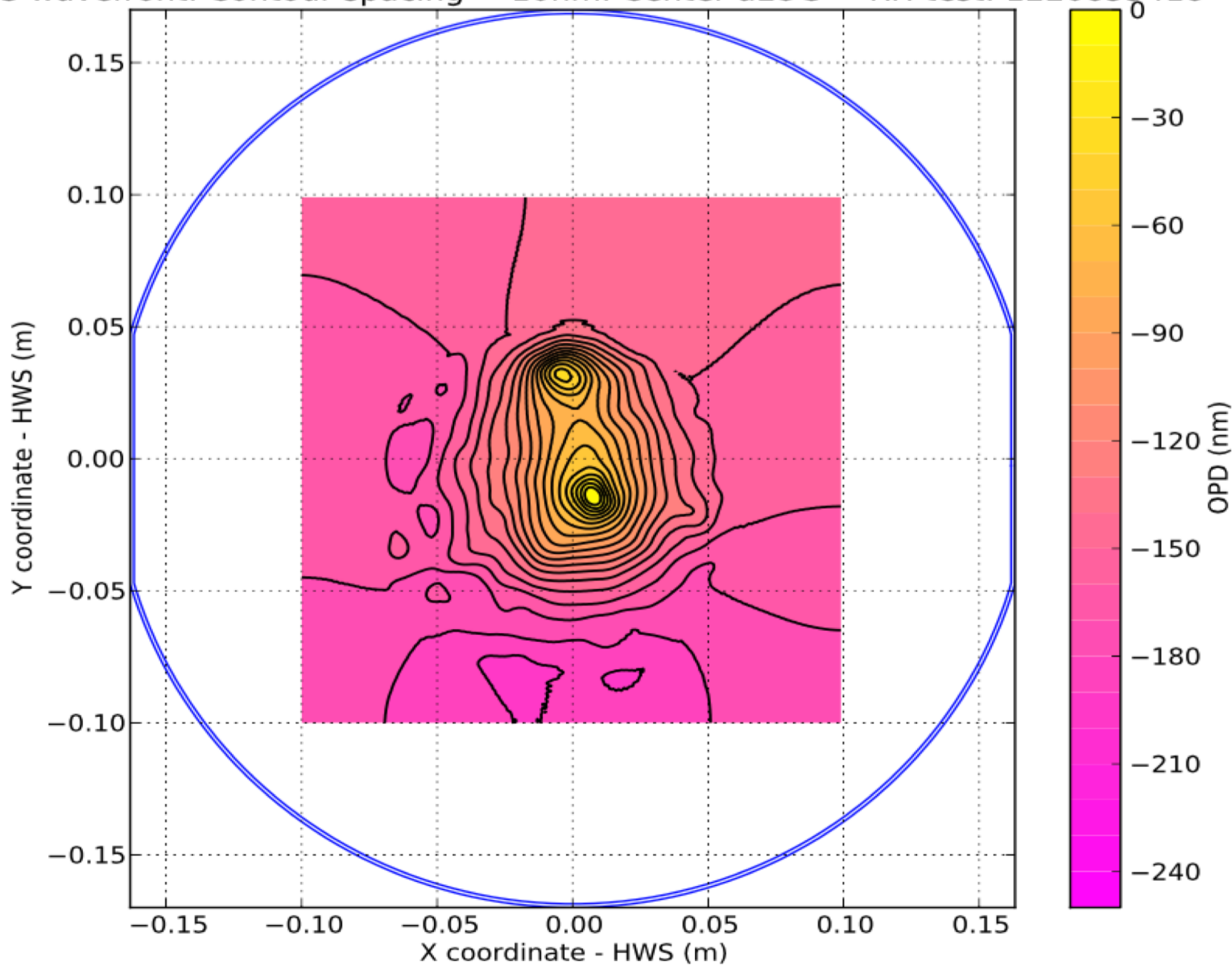
ITM07 Transmission ($\lambda=1064$ nm, $\theta_i=1^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1mm)

(%)

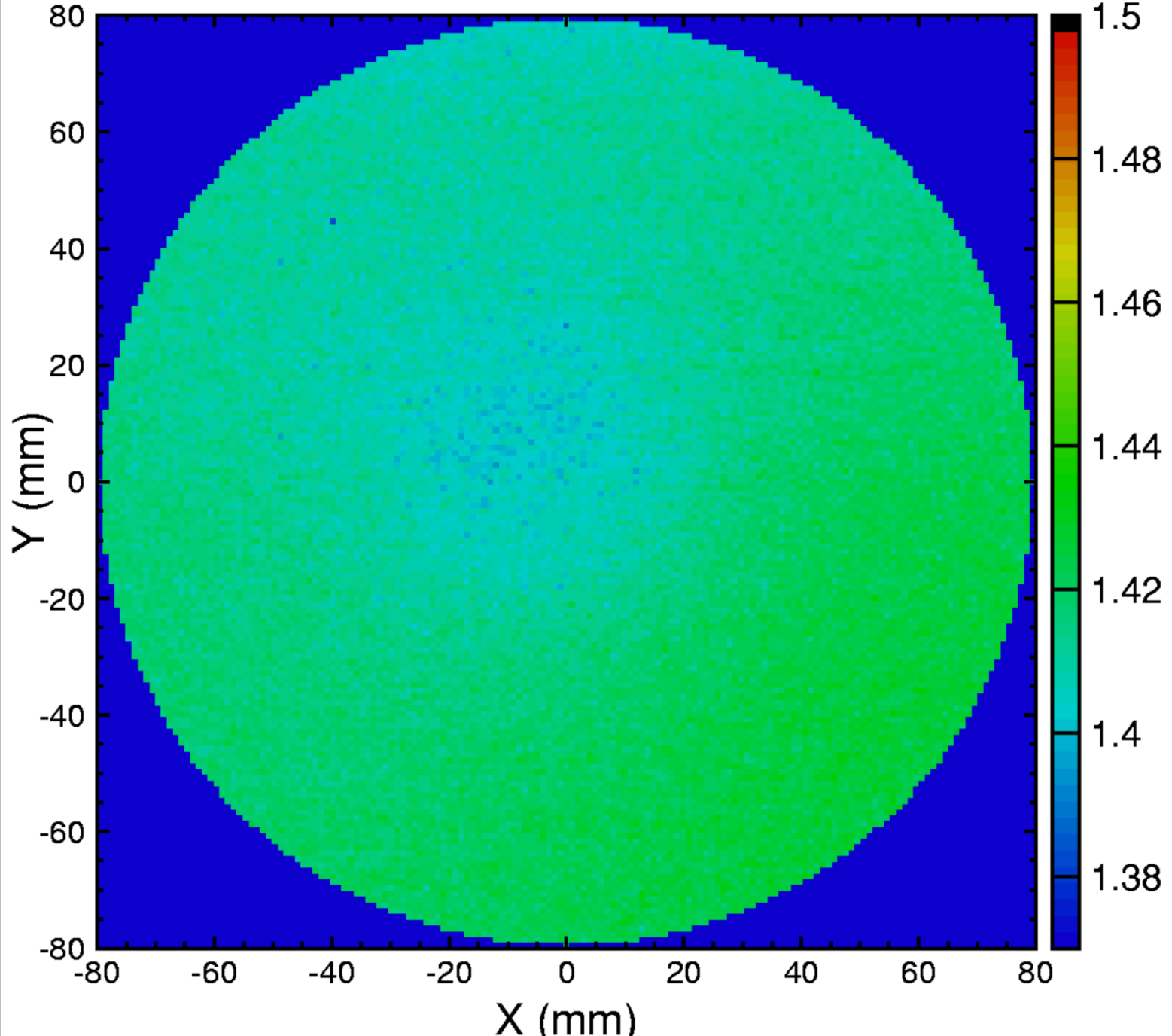


ITM11, 01, 02, 03 H1 ITMY

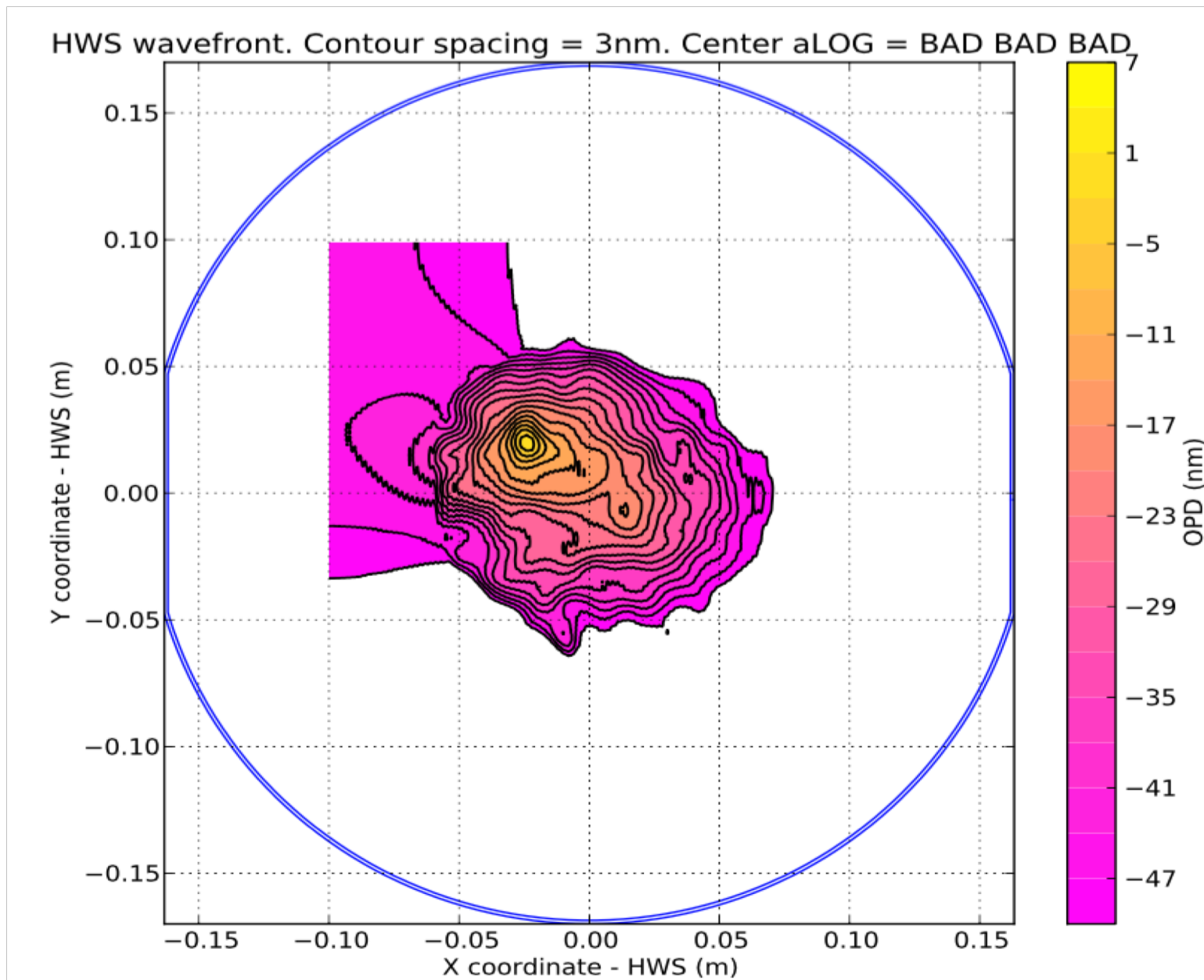
/S wavefront. Contour spacing = 10nm. Center aLOG = RH test: 1220855418



ITM11 Transmission ($\lambda=1064$ nm, $\theta_i=2^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1mm)

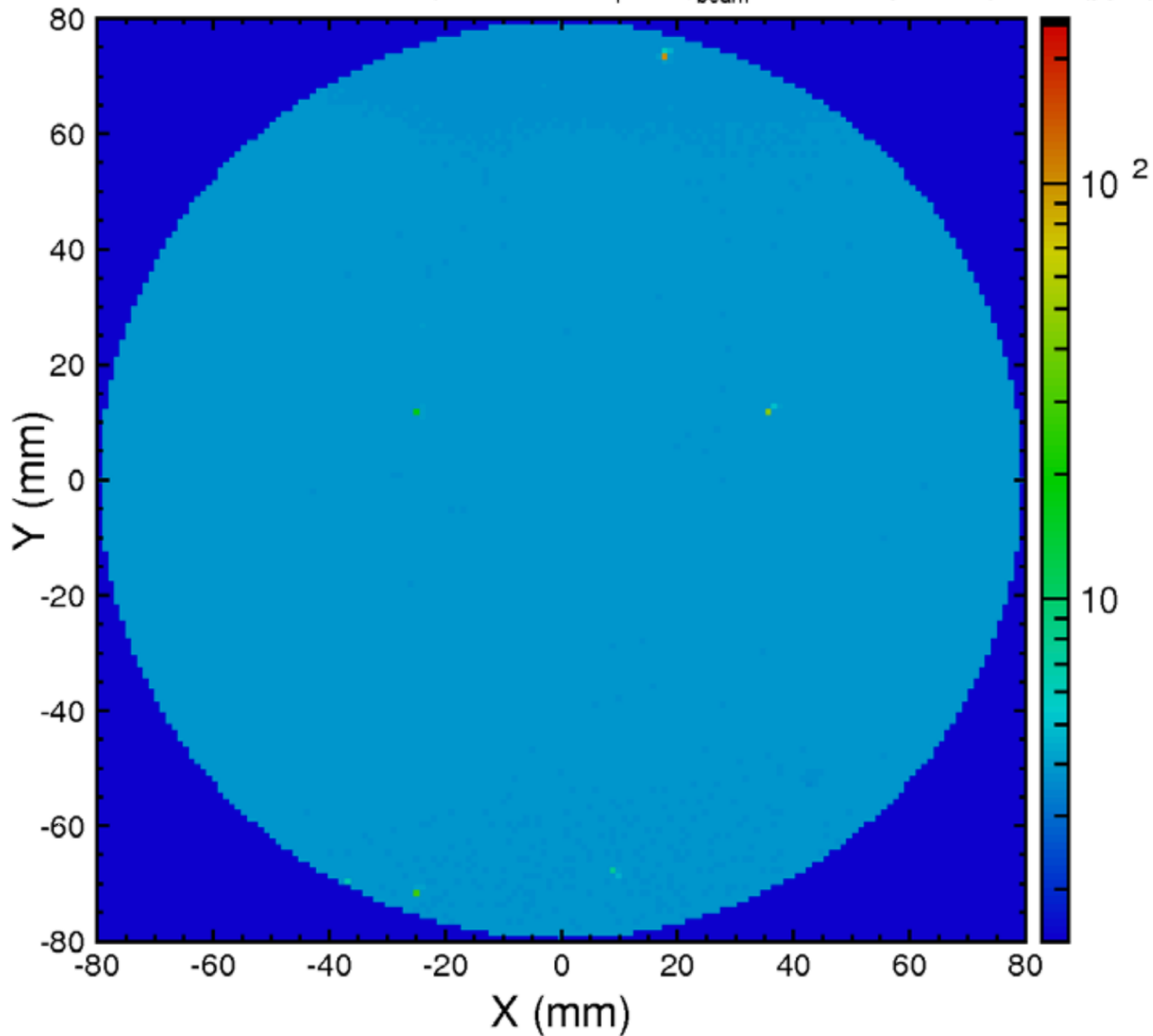


H1 ETMX – ETM13

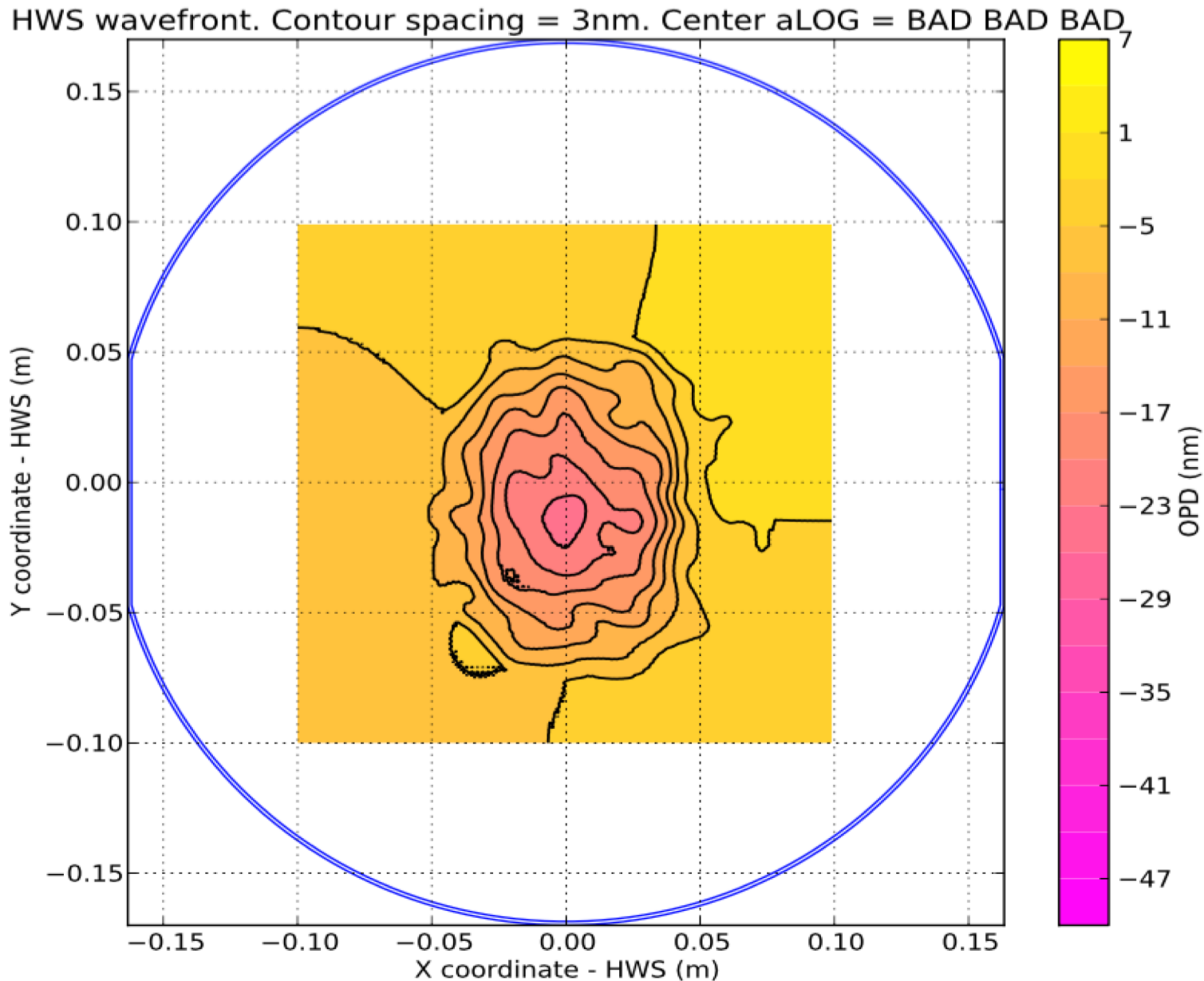


ETM13 Transmission ($\lambda=1064$ nm, $\theta_i=1^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1 mm)

(ppm)

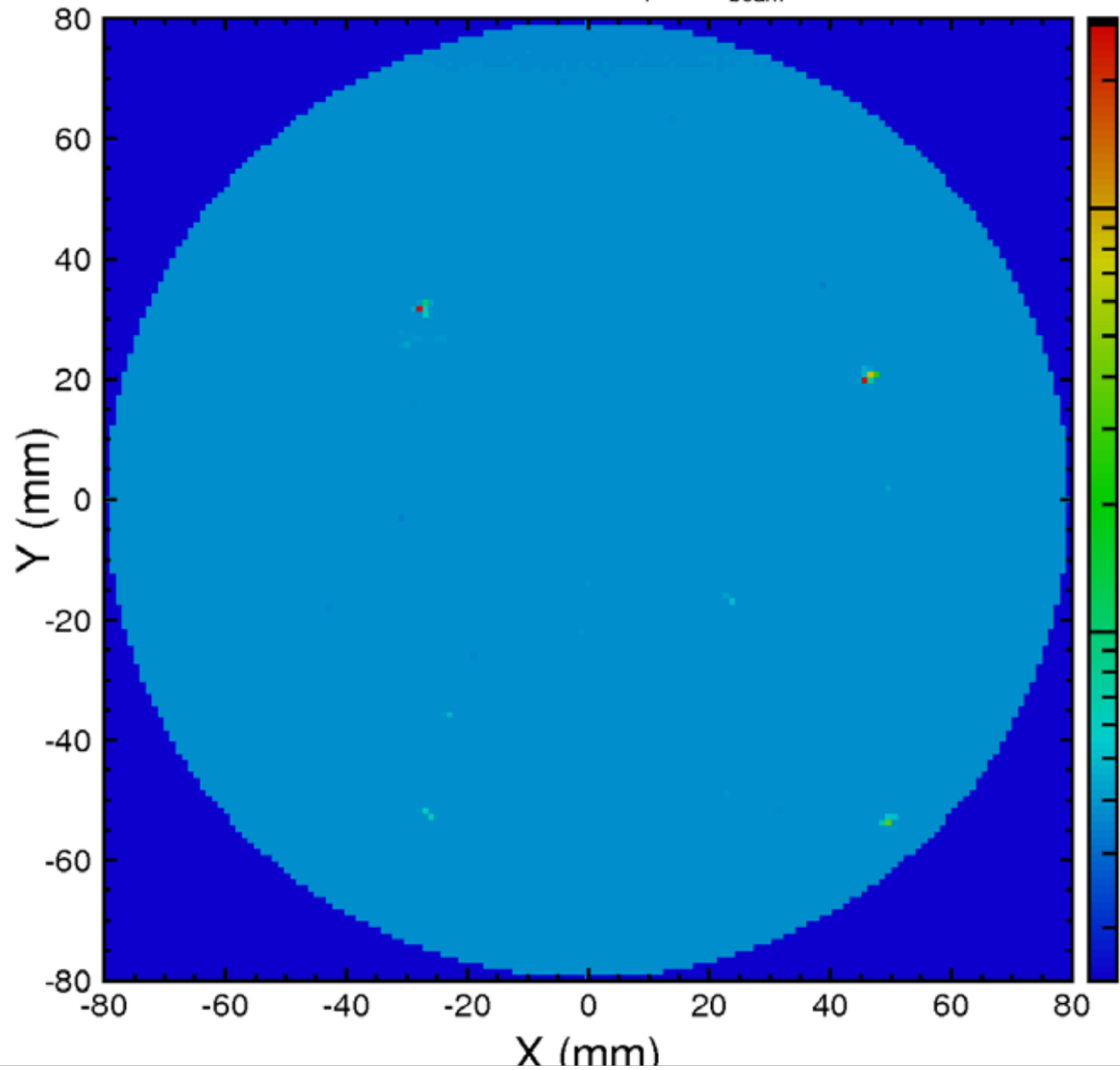


H1 ETMY-ETM16



ETM16 Transmission ($\lambda=1064$ nm, $\theta_i=1^\circ$, $\phi_{\text{beam}}=1$ mm, Step=1 mm)

(ppm)



First observation: ITM03, 01,02 partial H1-ITMX

