

## **TELBE beamtime: 06.12.2018 night shift (from the LAB)**

**Notebook:** Old TELBE Notebook (1)

**Created:** 06.12.2018 22:01

**Updated:** 09.12.2018 00:15

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10:00 realigned the EOS,

**file:002** - 2 mm ZnTe at EOS position, WG at 120 degs, gain 1, used det36 detectors

aborted - forgot to change the range

started from 50mm position, 150 steps with 100 $\mu$ m step

**file:003**

put 2100 GHz filter while the second loops was still running

set gain 10, removed the WG polarizer

**file:004**

Rearranged the green overlapping as the opening angle was too big to align beams inside cryostat.

put sample in, room temperature,

power BDA - 117 mW

**file:005\_sample\_RT\_EOS\_2mm\_ZnTe\_gain10**

**00:15 started cooling the samples**

**Temperature set to 80 K**

**00:50**

**power - 117 mW, lockin 101 mV**

**file:006\_sample\_80p8K\_EOS\_2mm\_ZnTe\_gain10**

**temperature at the end of the scan: 80.1K**

**01:10**

**power - 117-118 mW, lockin - 102 mV**

**set temperature to 65K**

**file:007\_sample\_65p7K\_EOS\_2mm\_ZnTe\_gain10**

**01:45**

**temperature at the end of the scan: 64.5 K**

**power BDA - 103 mW, lockin 101 mV**

**set temperature to 50 K, scan range: 48 mm to 42 mm, -0,1 step size, 3 loops**

**file:008\_sample\_50p4K\_EOS\_2mm\_ZnTe\_gain10**

**aborted after 1 loop and repeated again with proper range, start 48, 60 steps, 0,1 mm step size**

**file:009\_sample\_50p4K\_EOS\_2mm\_ZnTe\_gain10**

**temperature - 49,9K**

**power- 105 mW, lockin 101 mV**

**set temperature 35 K**

**file:010\_sample\_34p8K\_EOS\_2mm\_ZnTe\_gain10**

power- 106 mW, lockin 102 mV  
set temperature 15 K  
file:011\_sample\_17p2K\_EOS\_2mm\_ZnTe\_gain10

**Power dependence**

power- 105 mW, lockin 101 mV (polarizer angle 50)  
set temperature 50 K  
file:012\_sample\_50p9K\_EOS\_2mm\_ZnTe\_gain10

power- 105 mW, lockin 101 mV (polarizer angle 70)  
set temperature 50 K  
file:013\_sample\_52p0K\_EOS\_2mm\_ZnTe\_gain10

power- 104 mW, lockin 101 mV (polarizer angle 85)  
set temperature 50 K  
file:014\_sample\_52p0K\_EOS\_2mm\_ZnTe\_gain10

power- 104 mW, lockin 101 mV (polarizer angle 75)  
set temperature 50 K  
file:015\_sample\_52p0K\_EOS\_2mm\_ZnTe\_gain10

power- 105 mW, lockin 101 mV (THz power full)  
set temperature 100 K  
file:016\_sample\_100p6K\_EOS\_2mm\_ZnTe\_gain10

power- 105 mW, lockin 101 mV (THz power full)  
set temperature 125 K  
file:017\_sample\_125p4K\_EOS\_2mm\_ZnTe\_gain10

**power- 117 mW, (mirror was tilted!)**

lockin 101 mV (THz power full)

+++++detailed temperature  
dependence+++++

set temperature 150K, power - 116 mW, lock in 101 mV  
2 loops, start 48, 60 steps, -0.1 step size  
file:018\_sample\_149p7K\_EOS\_2mm\_ZnTe\_gain10  
power - 115 mW

set temperature 130K, power - 115 mW, lock in 101 mV  
file:019\_sample\_130p5K\_EOS\_2mm\_ZnTe\_gain10  
2 loops, start 48, 60 steps, -0.1 step size

power - 115 mW  
Set temperature to 110K  
power 115 mW, lockin - 100 mV  
file:020\_sample\_110pK\_EOS\_2mm\_ZnTe\_gain10

power- 116 mW

set temperature to 100K.  
file:021\_sample\_100p6K\_EOS\_2mm\_ZnTe\_gain10  
power BDA:115 mW  
6:30  
set temperature to 97K.  
file:022\_sample\_97p3K\_EOS\_2mm\_ZnTe\_gain10  
97.1 K at end of measurement

