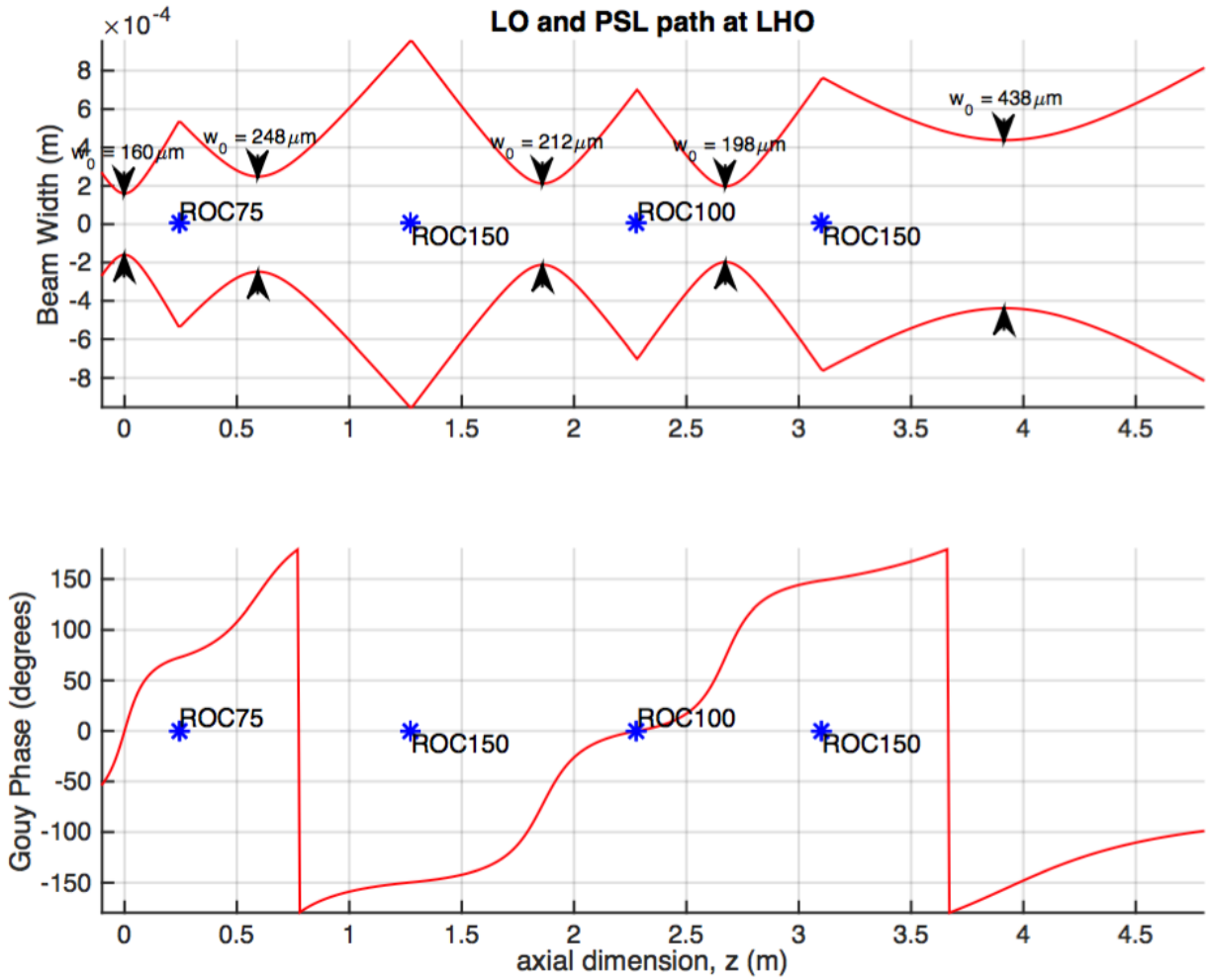
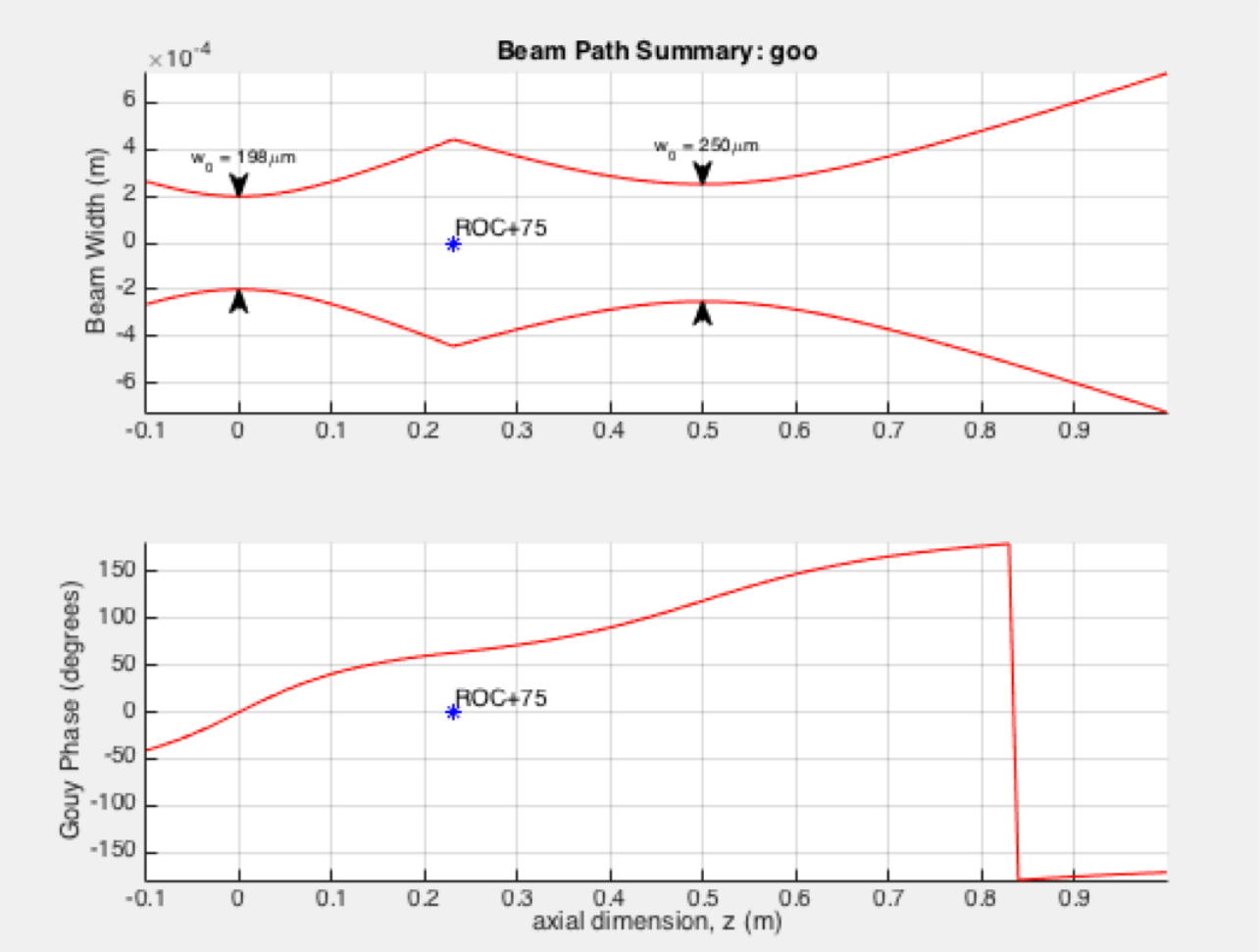
Original mode-matching from IR pump laser (Mephisto) on ISCT6 (waist 160um) to the PSL fibre (waist 438 um).

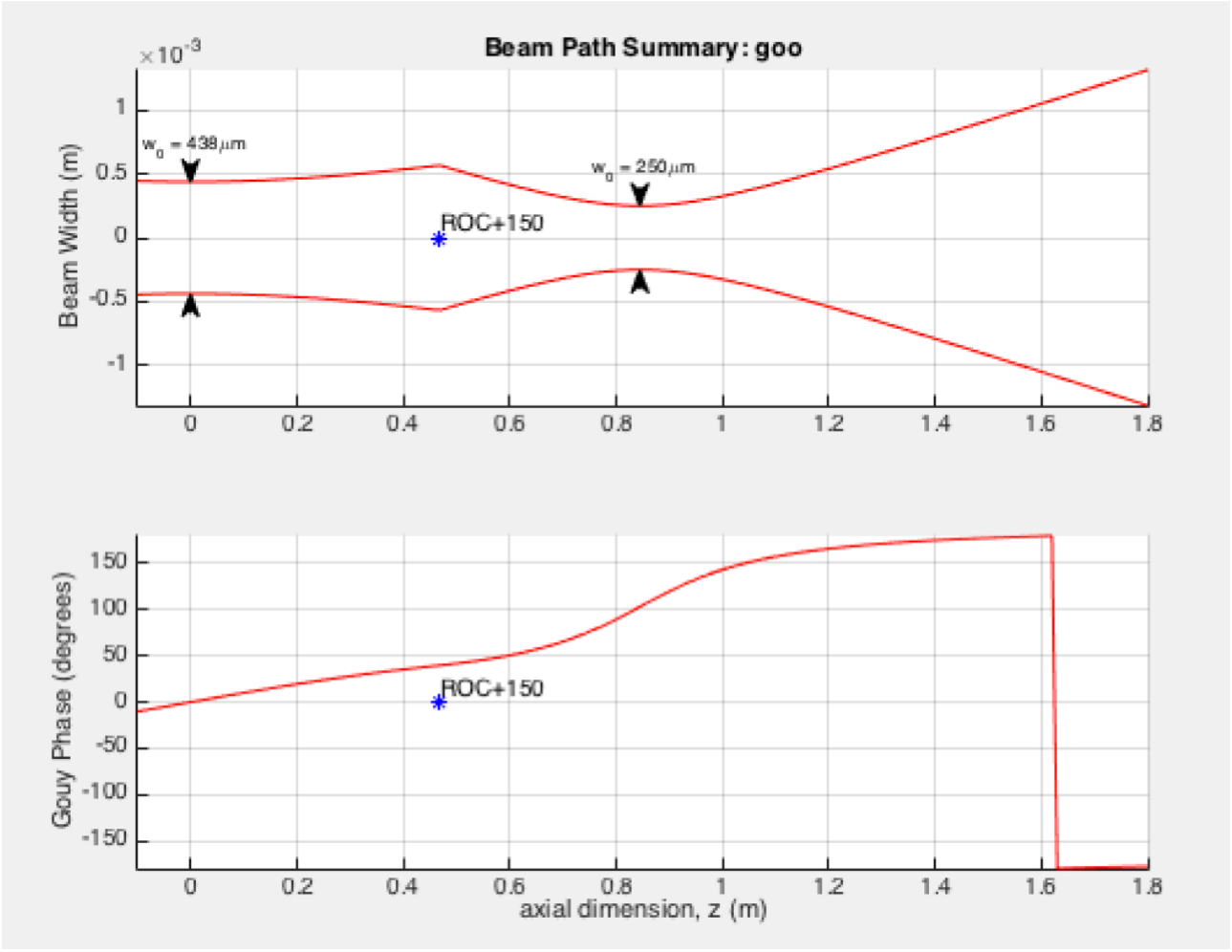


We use the 198 um waist in the above solution to create a new 250 um waist (see below) before the beat note detector (newfocus 1611).




```
goo.addComponent(component.lens(.167,.231,'ROC+75'));
```

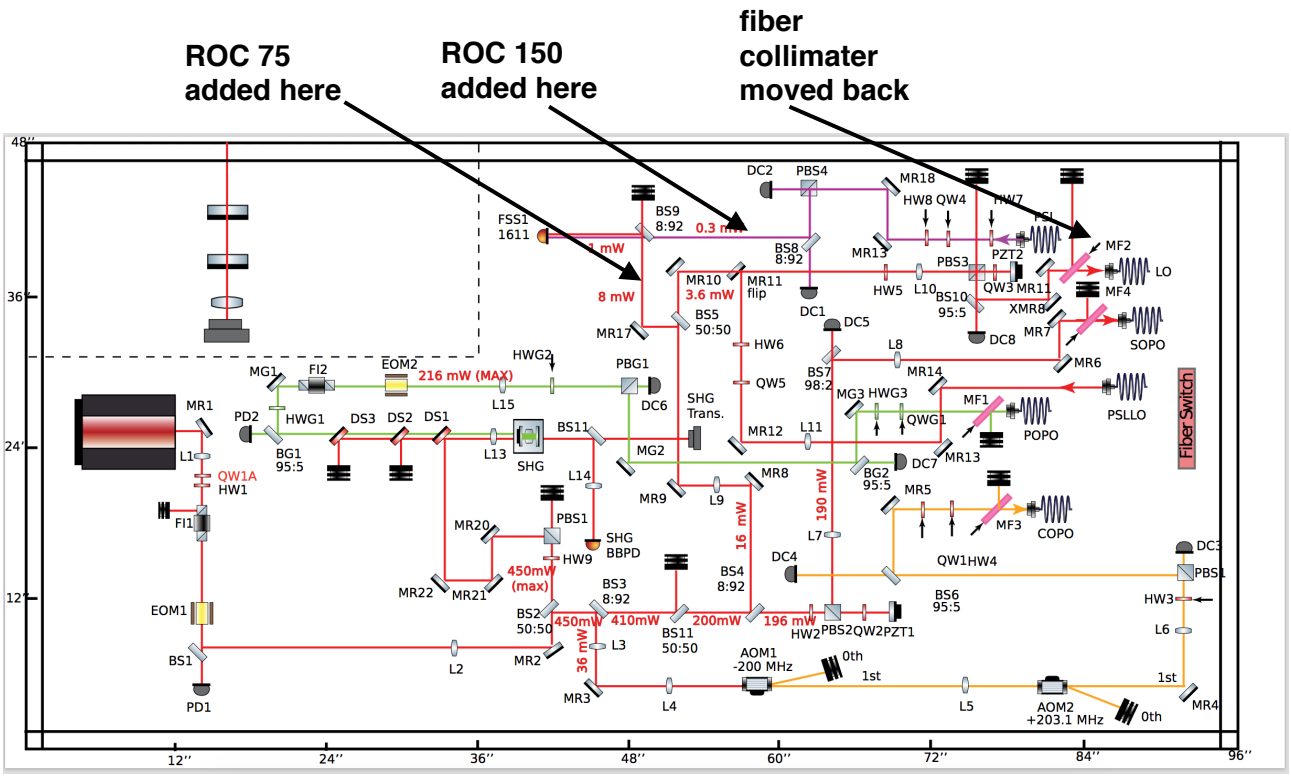
We then take the path from the PSL fibre collimator (waist 438 um) and create a 250 um waist in the same position in front of the detector by implementing a ROC150 lens, see below.




```
goo.addComponent(component.lens(.333,.468,'ROC+150'));
```

In practice the existing ROC150 lens is moved toward the PSL fibre and the PSL fibre is moved back (closer to the end of the table) to position the waist at the same position (between BS9 and the detector) as the beam from the Mephisto laser, see below.

Note a focusing lens is also added just before the detector (not shown).


ROC 75
added here
ROC 150
added here
fiber
collimater
moved back
48''
36''
24''
12''
12''
24''
36''
48''
60''
72''
84''
96''
FSS1
1611
BS9
8:92
0.3 mW
1 mW
8 mW
DC2
PBS4
MR18
HW8
QW4
HW7
FSL
MF2
LO
BS8
8:92
MR13
PBS3
PZT2
QW3
MR11
MF4
MR10
3.6 mW
MR11
flip
HW5
L10
BS10
95:5
XMR8
MR7
SOPO
DC1
DC5
DC8
BS5
50:50
MR17
HW6
L8
MR14
MR6
PSLLO
BS7
98:2
QW5
MG3
HWG3
QWG1
MF1
POPO
MR12
L11
DC7
MR13
BG2
95:5
MR5
MF3
COPO
MG1
FI2
EOM2
216 mW (MAX)
HWG2
PBG1
DC6
SHG
Trans.
MR1
PD2
HWG1
DS3
DS2
DS1
L15
BS11
MG2
L1
QW1A
HW1
BG1
95:5
L13
SHG
L14
MR8
MR9
L9
190 mW
16 mW
L7
FI1
PBS1
MR20
SHG
BBPD
HW9
DC4
QW1
HW4
DC3
PBS3
450mW
(max)
MR22
MR21
BS3
8:92
BS4
8:92
BS6
95:5
HW3
EOM1
BS2
50:50
450mW
410mW
200mW
196 mW
HW2
PBS2
QW2
PZT1
L6
BS1
L3
BS11
50:50
AOM1
-200 MHz
0th
1st
1st
L2
MR2
36 mW
L5
AOM2
+203.1 MHz
0th
MR4
PD1
MR3
L4
Fiber Switch