Mon 28 Apr

(1)

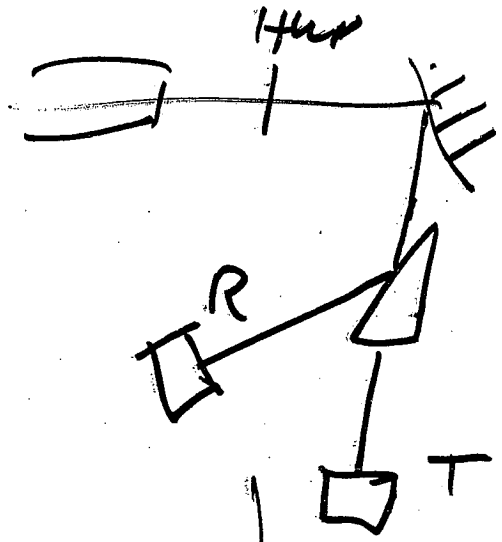
8%

0° HWP 0.32W(T) HP

60° HWP 1.33W(T) — MAX HP

60° HWP 1.82mW(R) LP
(9.50mW)
31.5mW

E pluribus Anus



13%

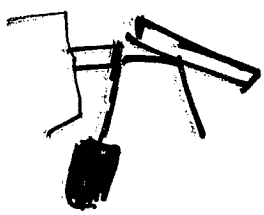
60° HWP 5.5mW(R) LP
5.7W(T) HP

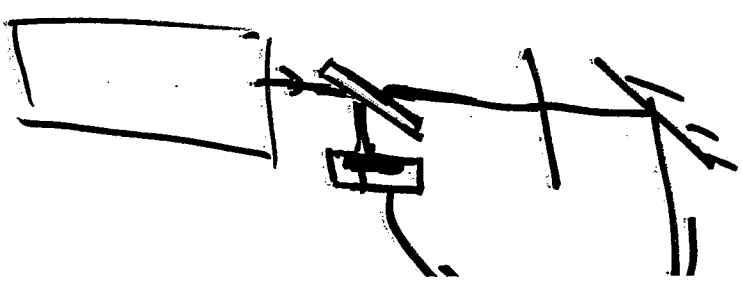
15° HWP 6.4W(R)
203mW(T) on Earth
6.36W(R)
34mW(T)

not HWP min TRANS ∋ 15° HWP

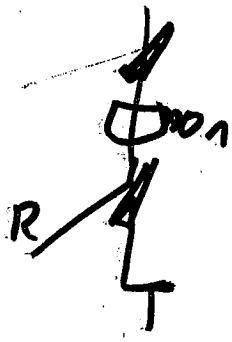
15° HWP 36mW(T)
6.38W(R) 6.87

84% ~~12.83W~~ 497.7W(R)
281.7mW(T)





11.5%

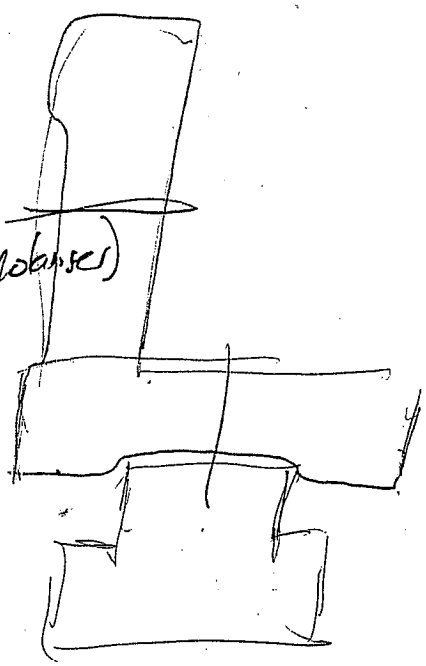


15° HWP
11.6mW T
26.5mW R
11.5%

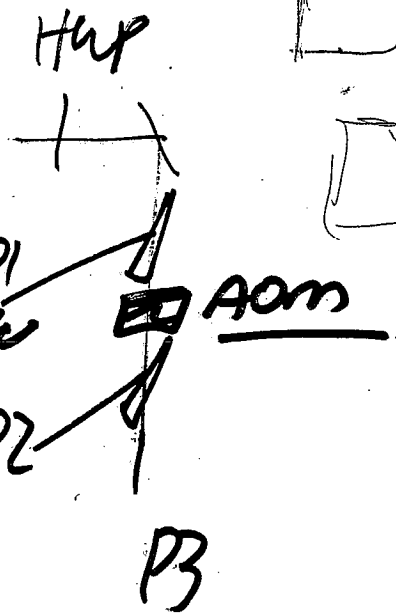
→ MIN REF POWER (altering angle of polariser)

12% 15° HWP

R = 16.3mW
T = 9.8mW



Rotate HWP to 60°



20%

P1(R) = ~~53.6mW~~ ~~58mW~~ ~~0.397W~~ 58mW
P2(R) = ~~0.3975W~~ ~~58mW~~ 0.397W
P3(T) = ~~11.35W~~ 10.68W

Rotate HWP to minimise 1st reflection

P3(T) = 11.40W
P2(R) = 0.385W
P1(R) = 59mW
} 20%

P1(R) = 481.5mW
P2(R) = 1.499W
P3(T) = 43.55W
} 90%

Remove HWP

20% 46
P1(R) = 105mW
P2(R) = ~~0.385W~~ 0.426W
P3(T) 11.00W

90%
P1(R) = 400mW
P2(R) = 1.55W
P3(T) = 43.7W

3) Tues 24 Apr

with HWP 6/w AOM + 2nd polariser

60° HWP setting

20% pwr

P1 (R)

P2 (R) 0.43 W

P3 (T) 11.06 W

Rotating HWP this is minimum reflection power get @ 60°.

± 10° on HWP puts reflected pwr to around 1.6 W

Removing AOM

20%

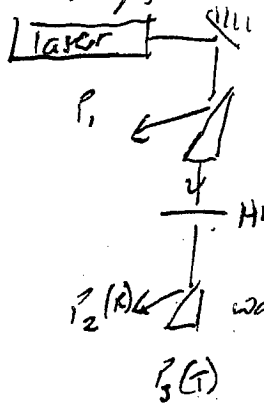
60° HWP setting

P2 (R) 206mW

P3 (T) 12.7 W

Trying a different wavelength type polariser

(one used last week when trying to setup)



20%

60° HWP setting

$P_2(R) = 145mW$

$P_3(T) = 12.6\ W$

Some setup going to CW setting

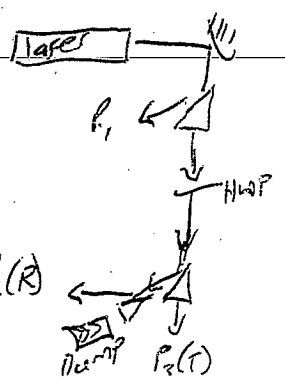
60° HWP setting

$P_2(R) \sim 450mW$

$P_3(T) = 54\ W$

Putting in another 3rd polariser

In CW mode



HWP @ 60°

5.7mW

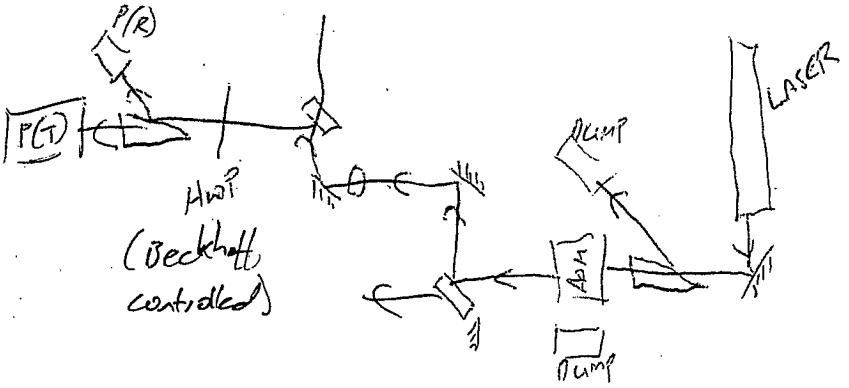
$P_2(R) = 430mW$

$P_3(T) = 52.5\ W$

$P_1(R) = 430\ mW$

In CW mode
P(R)
minimum occurs
@ HWP setting of: 37.5°

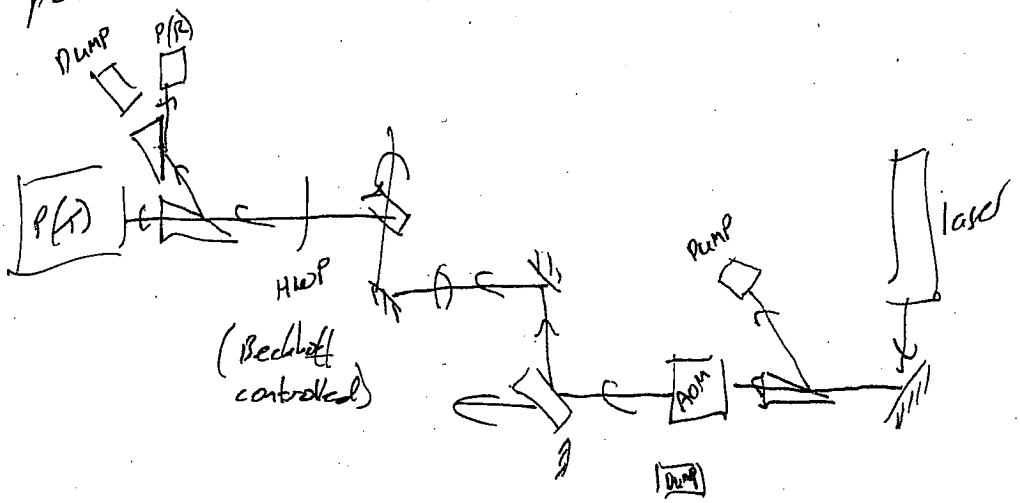
P(R) 460mW
P(T) 46.62 W



Put in 2nd polarisers

In CW mode
minimum P(R)
occurs @ HWP
setting of: 36.8°

P(R): 94.7 mW
P(T): 44.08 W



Same setup as above however AOM removed
HWP still @ 36.8° and power meter looking @ reflection off polariser not moved

P(R) = 7 mW
P(T) = 46.7 W

Adjusting power meter after polariser to see if actually collecting all power reflected off polariser + adjusting HWP to get minimum reflection
HWP = 38.5°
P(R) = 5.4 mW
P(T) = 46.6 W