

**Datasheet for #sbcw648 DN**

Recommendations:

Please read the starter kit user manual (at least installation chapter 5), if available, and have a look at the FAQ at <http://www.alpeslasers.ch/alfaq.pdf>

**WARNING:** Operating the laser with higher current or voltage than specified in this document may cause damage and will result in loss of warranty, unless Alpes Lasers has permitted to do so!

**WARNING:** Beware of the polarity of the laser. This laser has to be powered with negative current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). To use with a power-supply ILX Lightwave LDX-3232 or equivalent.

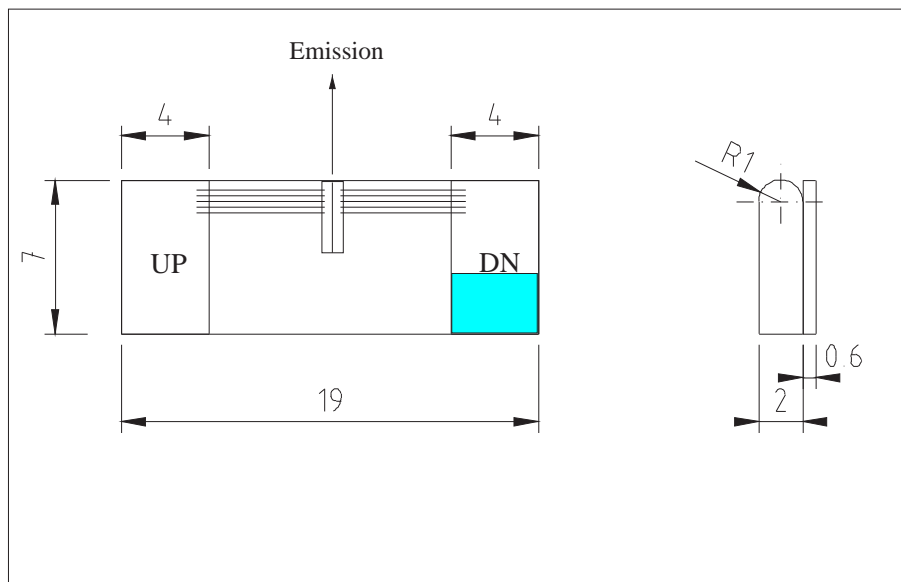


Figure 1: Support mounting for #sbcw648 DN (please note that the laser is connected to the DN pad drawn in blue)

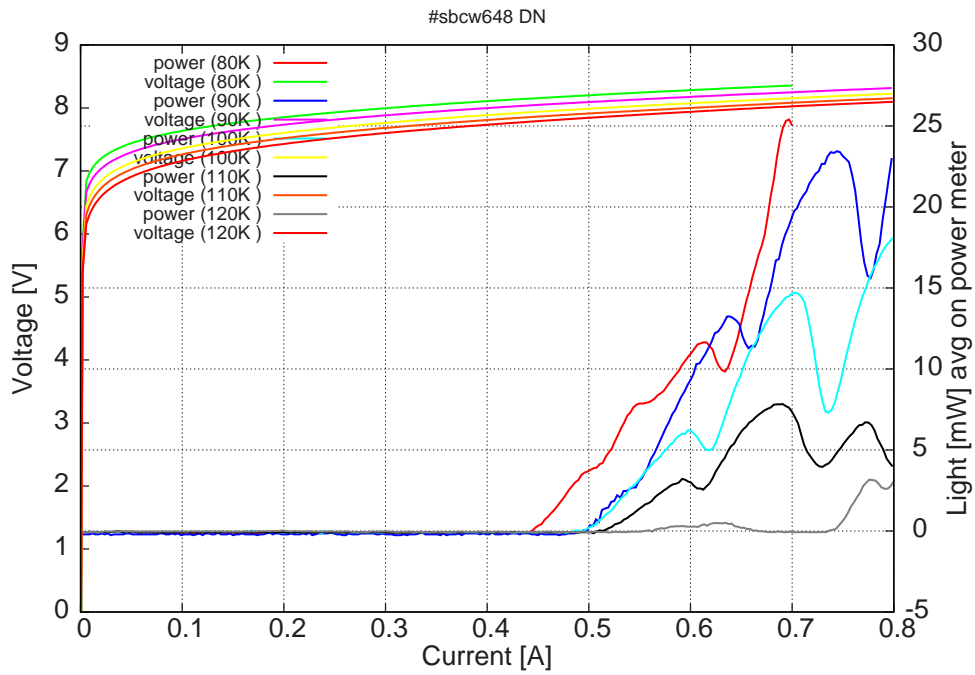


Figure 2: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

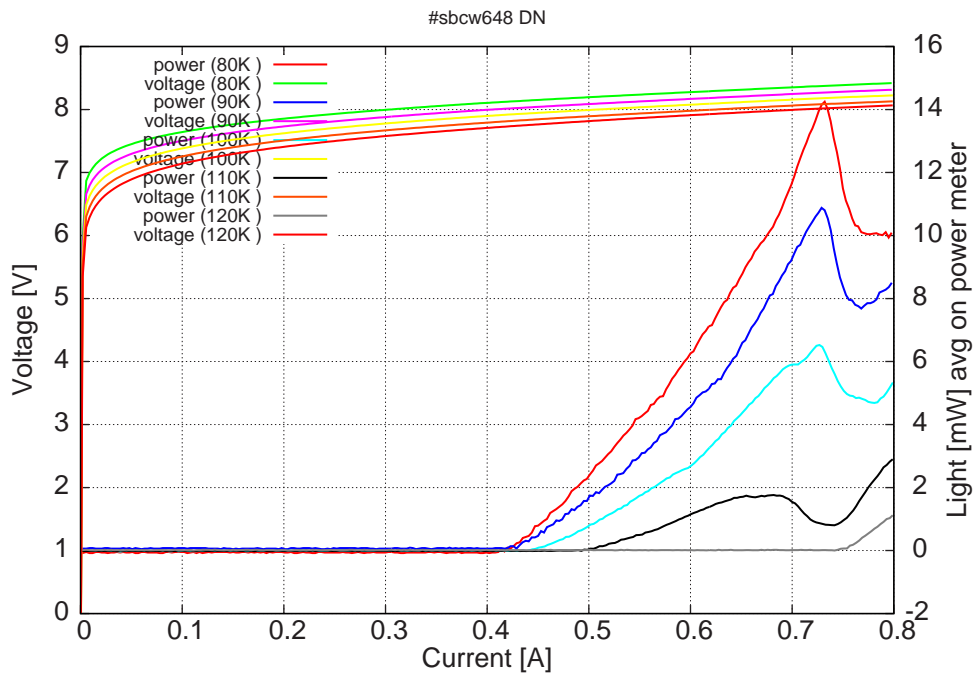


Figure 3: peak voltage and average power vs peak current in continuous-wave operation directly in front of the cryostat (no air-absorption) (the solid squares indicate the maximum singlemode emitted power)

Note: at 80K:  $I_{th}=420mA$  /  $V_{th}= 8.11V$  (4-wires measurements)

Maximum operation current: 0.8A at 80K, 90K and 100K, 0.74A at 110K.

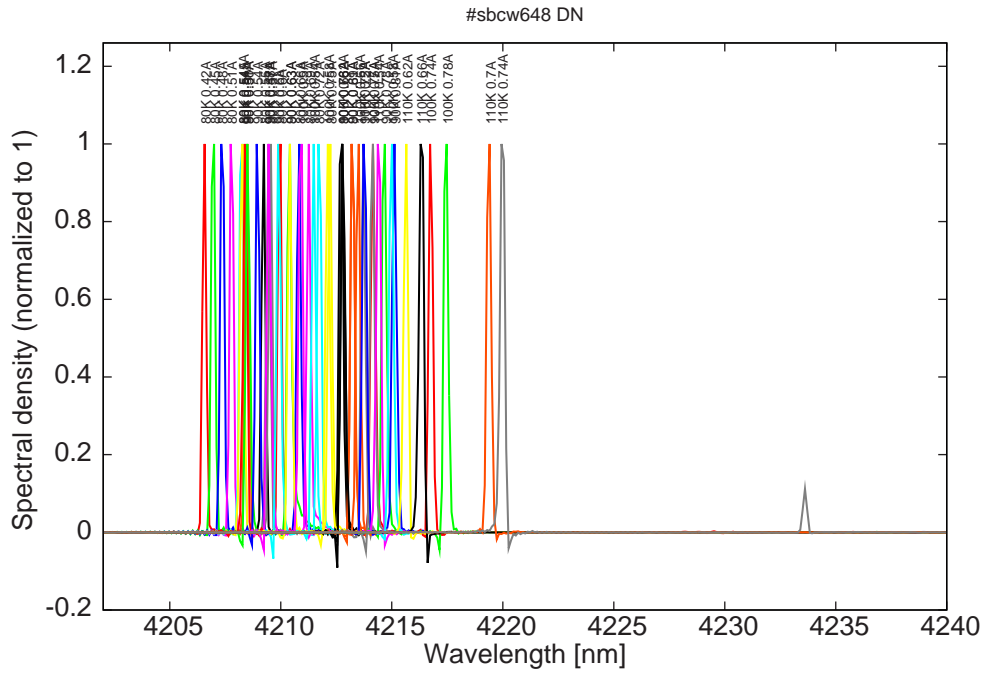


Figure 4: spectra at 80K, 90K, 100K, and 110K

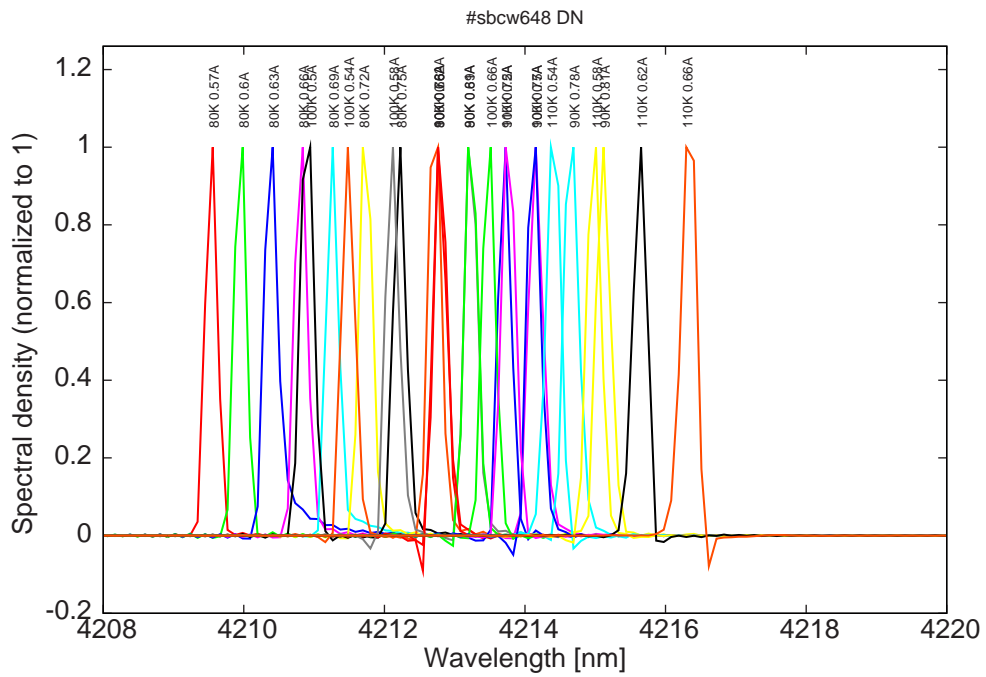


Figure 5: spectra at 80K, 90K, 100K and 110K (usable monomode range)

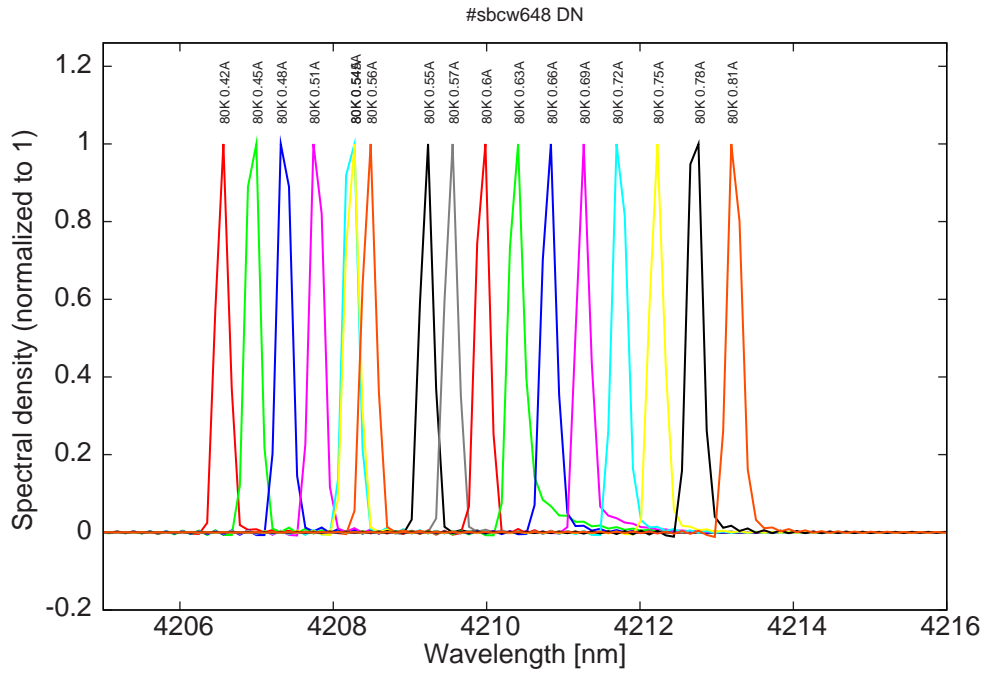


Figure 6: spectra at 80K (all spectra), note: mode jumping around 550-570mA

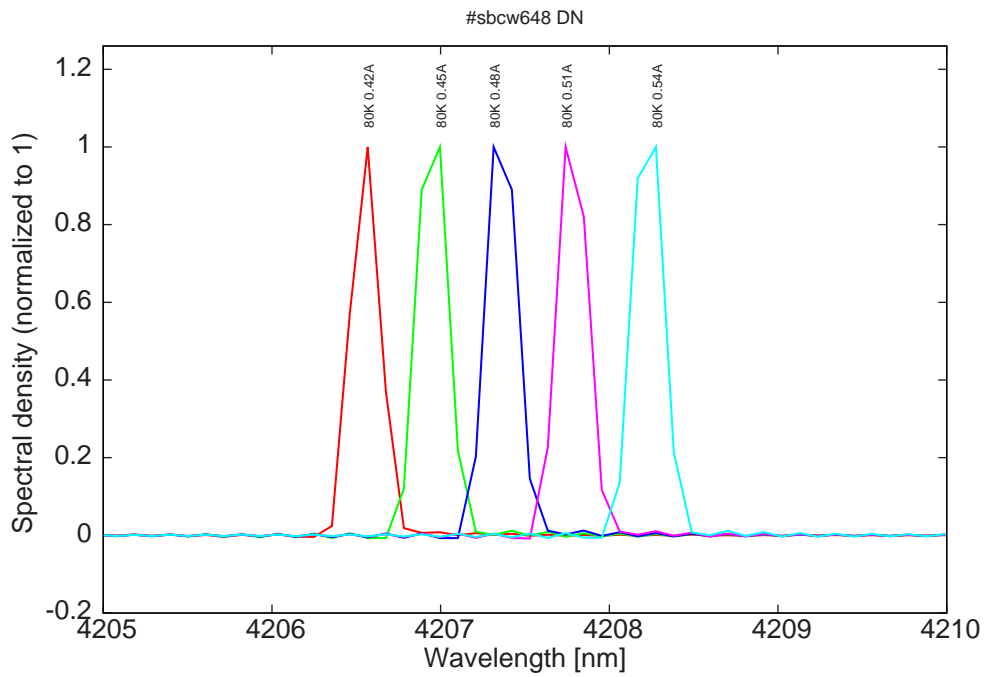


Figure 7: spectra at 80K (first monomode range, before mode jumping)

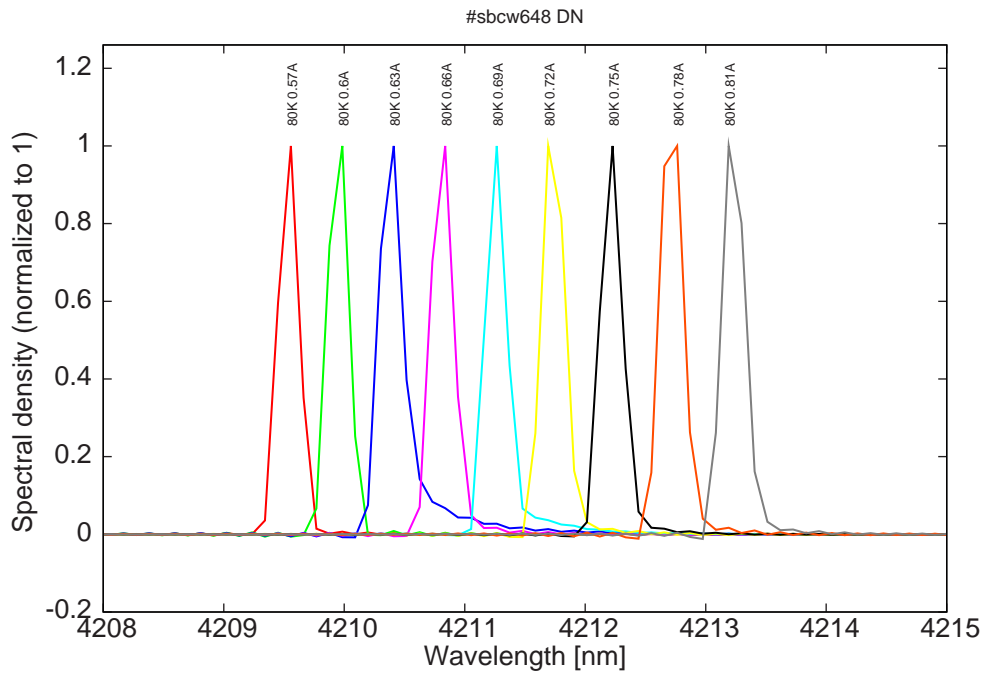


Figure 8: spectra at 80K after mode jumping

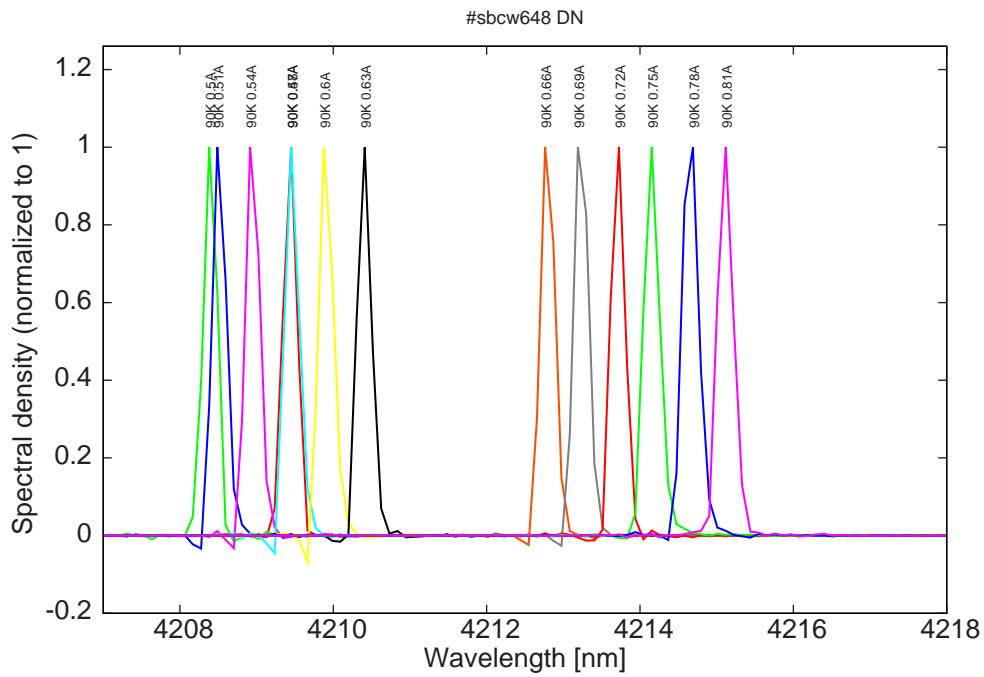


Figure 9: spectra at 90K (all spectra), note: mode jumping around 490mA and 650mA

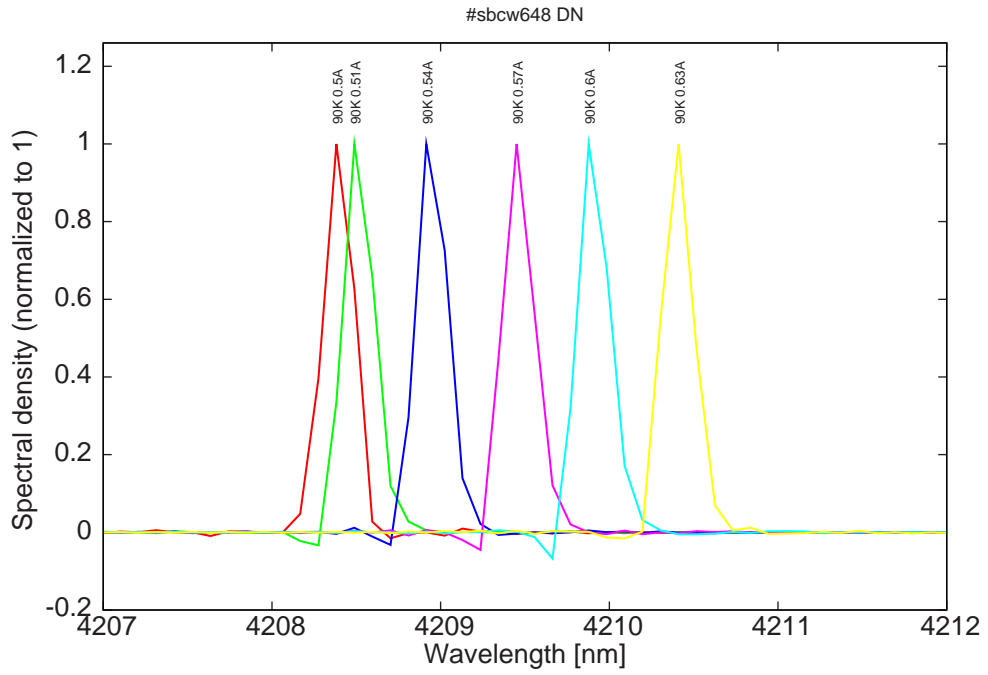


Figure 10: spectra at 90K (first monomode range between 500 and 630mA)

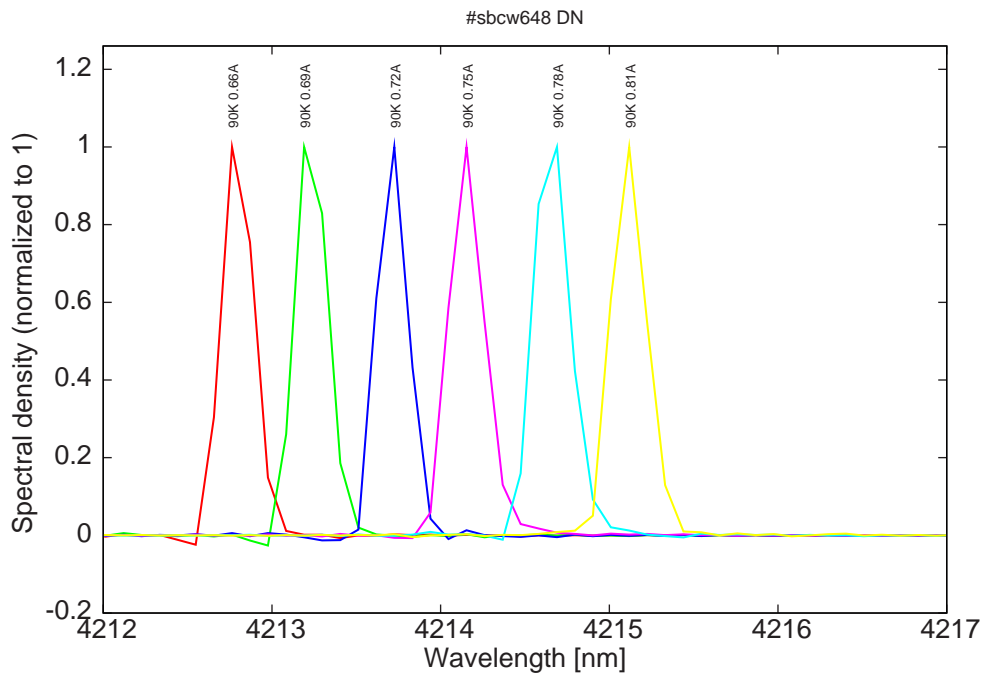


Figure 11: spectra at 90K (second monomode range between 660 and 810mA)

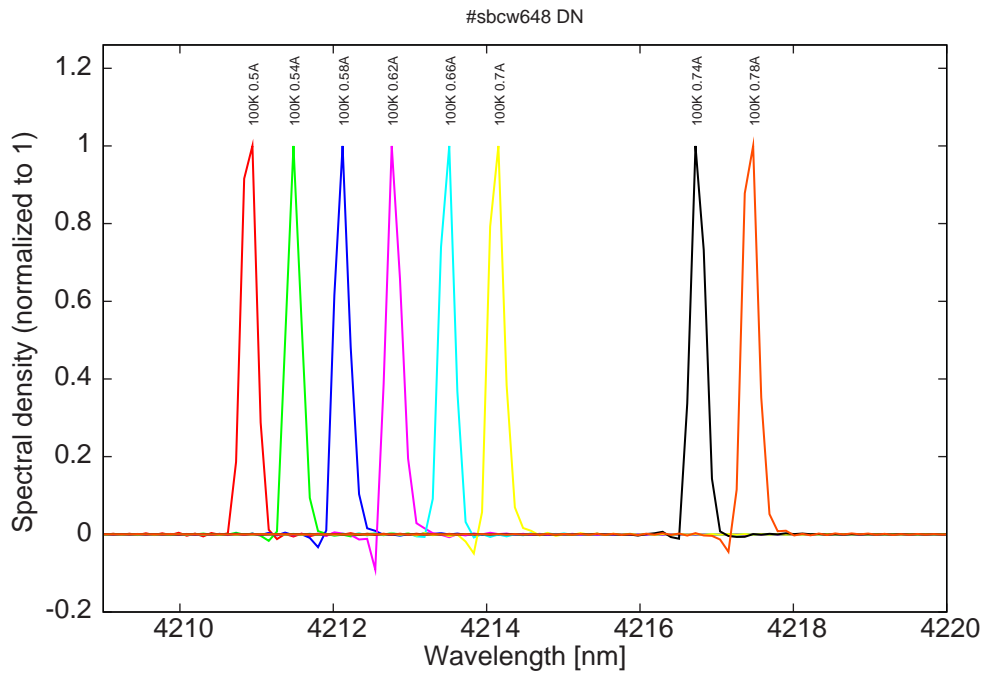


Figure 12: spectra at 100K, note: mode jumping around 730mA

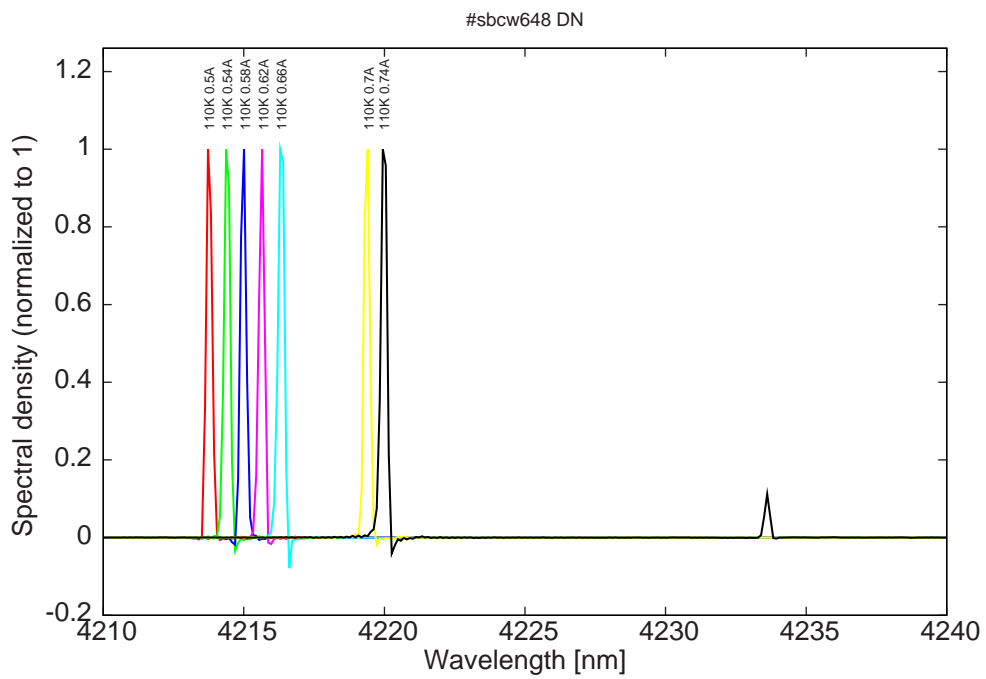


Figure 13: spectra at 110K (all spectra), note: mode jumping around 690mA

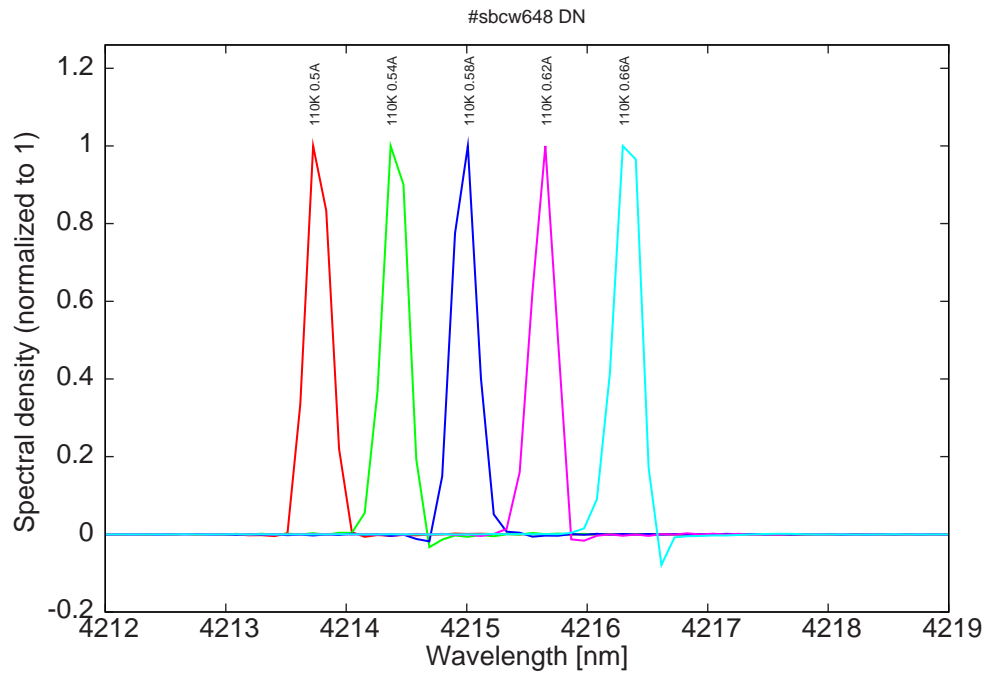


Figure 14: spectra at 110K (monomode range between 500 and 660mA)