

**Datasheet for #sbcw302 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.

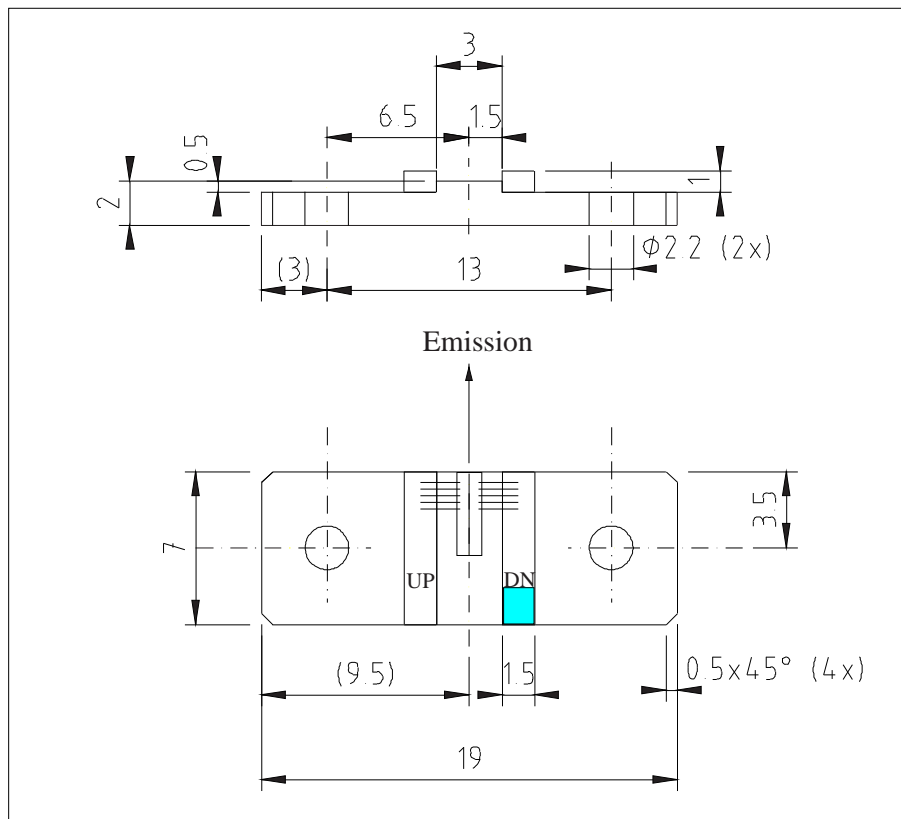


Figure 1: Support mounting for #sbcw302 DN (please note that the laser is connected to the DN pad drawn in blue)

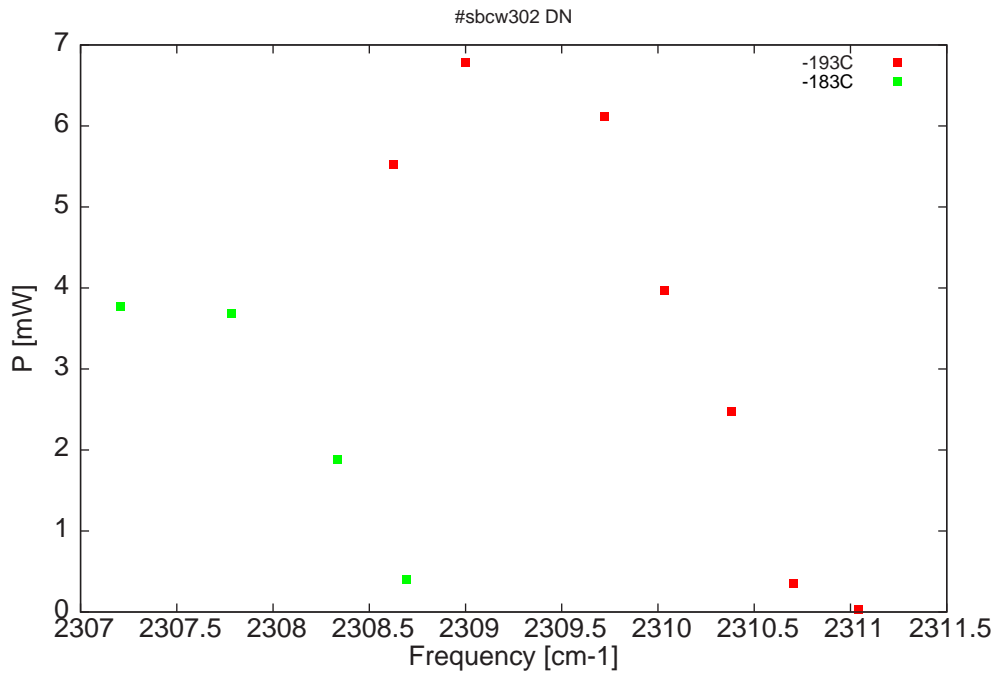


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

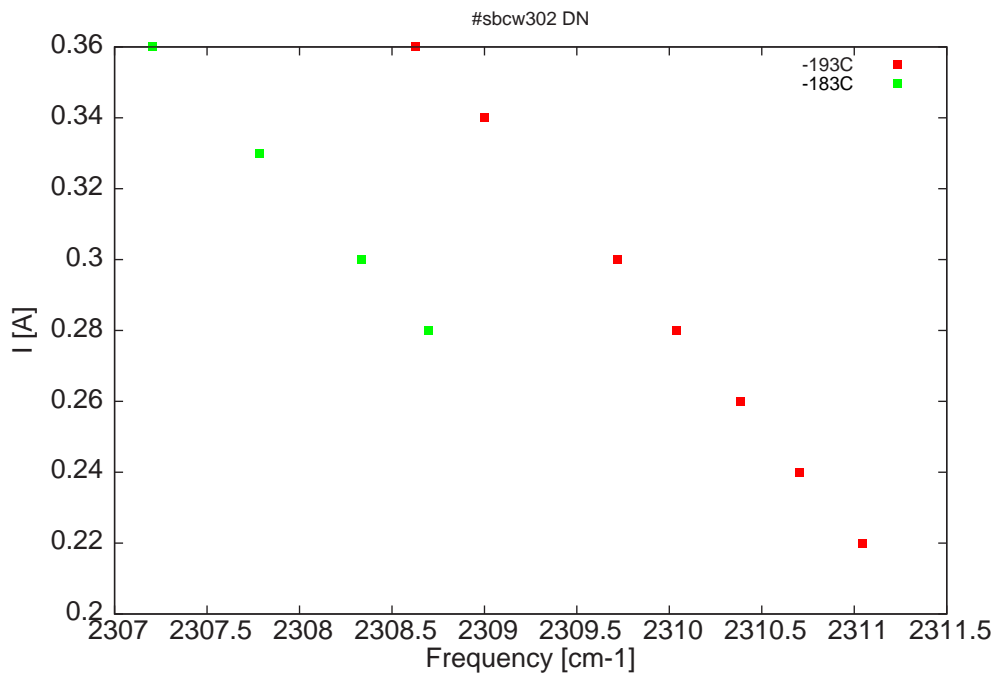


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4327	2311	0	-193	8.5	0.22
4327.7	2310.7	0.4	-193	8.5	0.24
4328.3	2310.4	2.5	-193	8.6	0.26
4328.9	2310	4	-193	8.6	0.28
4329.5	2309.7	6.1	-193	8.7	0.3
4330.9	2309	6.8	-193	8.8	0.34
4331.6	2308.6	5.5	-193	8.8	0.36
4331.5	2308.7	0.4	-183	8.6	0.28
4332.1	2308.3	1.9	-183	8.6	0.3
4333.2	2307.8	3.7	-183	8.7	0.33
4334.2	2307.2	3.8	-183	8.8	0.36

Table 1 : singlemode optical output power as function of operating parameters

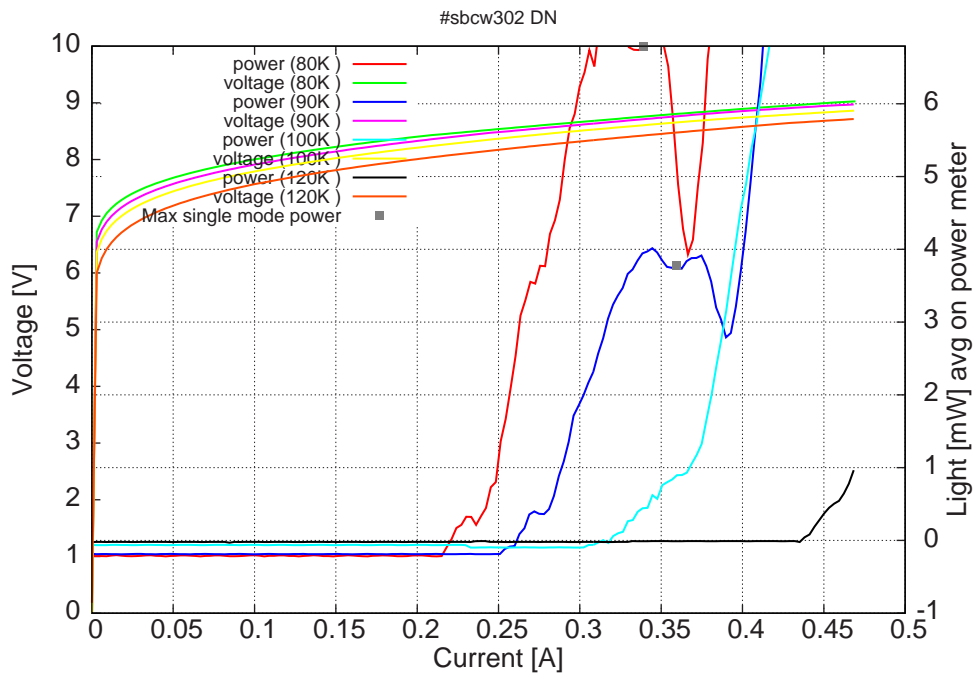


Figure 4: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

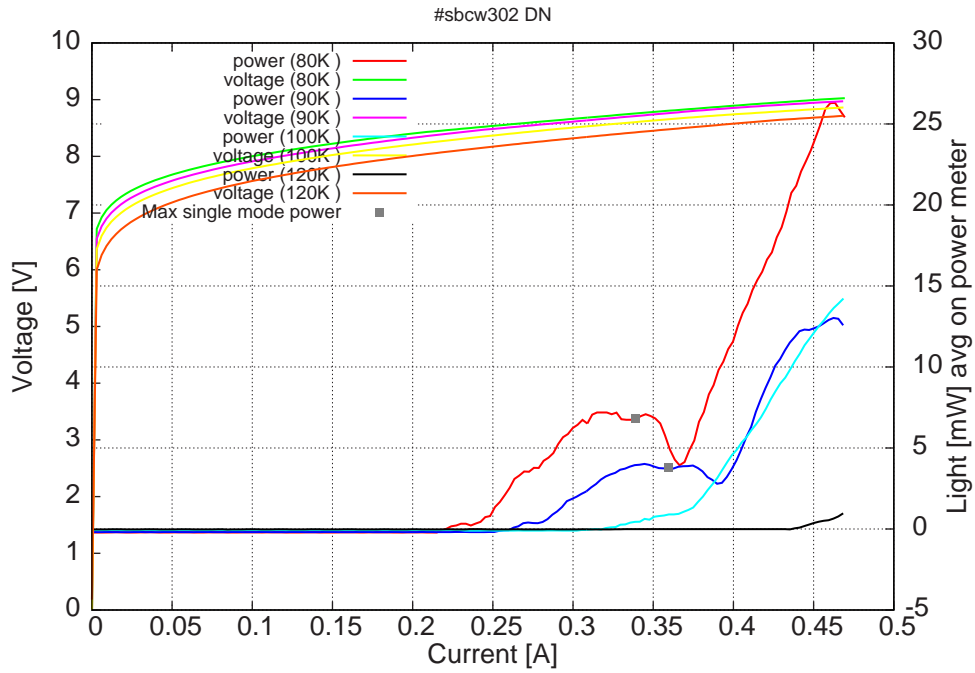


Figure 5: peak voltage and average power vs peak current in continuous-wave operation (including the multimode region)

Note: the bumps in the li-curves are due to absorptions in the beam-path. The laser exhibits a single-mode emission over the temperature and current ranges shown in the following spectra.

Note: at 80K:  $I_{th}=220\text{mA}$  /  $V_{th}= 8.46\text{V}$  (2-wires measurements)

Maximum operation current: 0.47A for all temperatures between 80K and 100K.

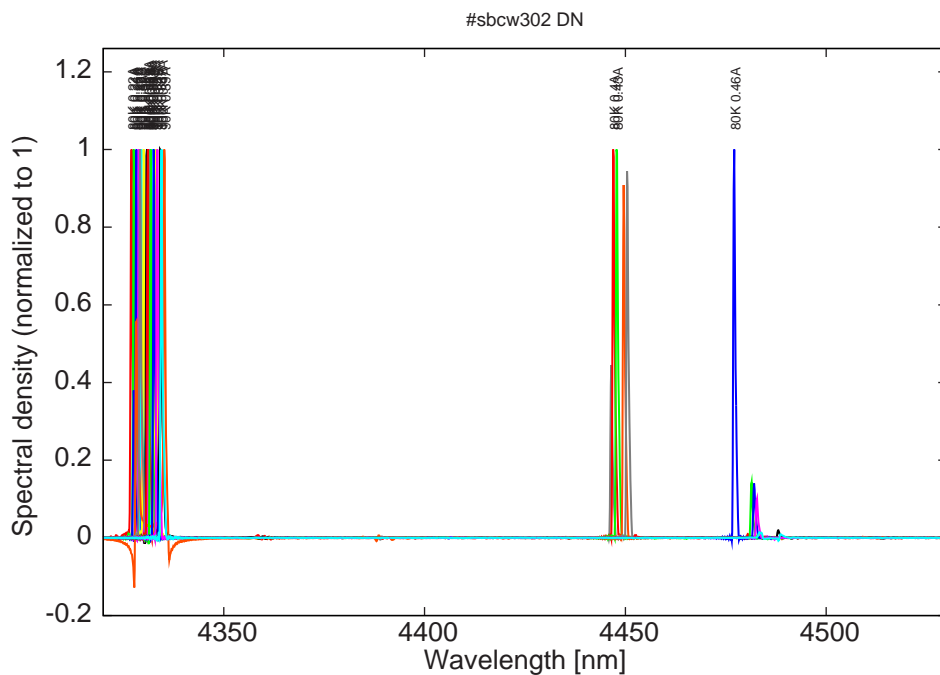


Figure 6: spectra at 80K, 90K and 100K

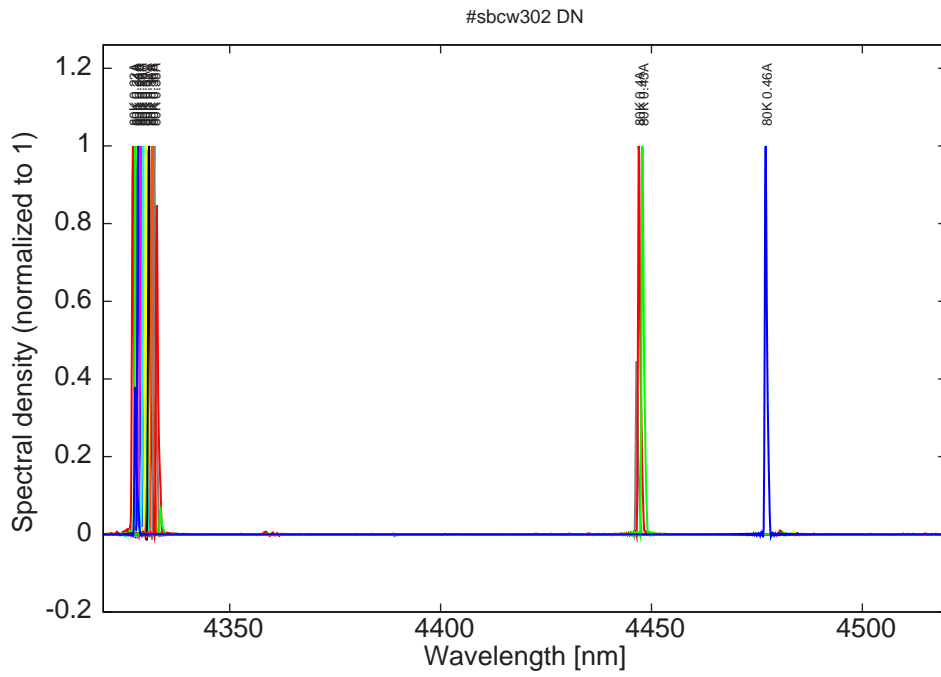


Figure 7: spectra at 80K (become bimode for  $I > 0.36A$ )

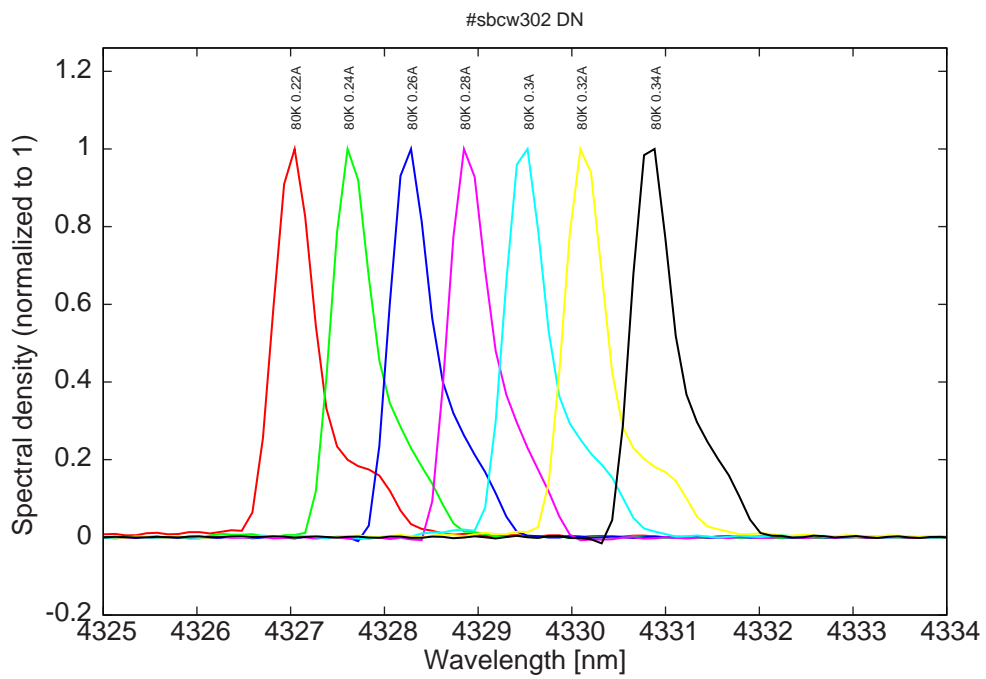


Figure 8: spectra at 80K (monomode range around 4329nm)

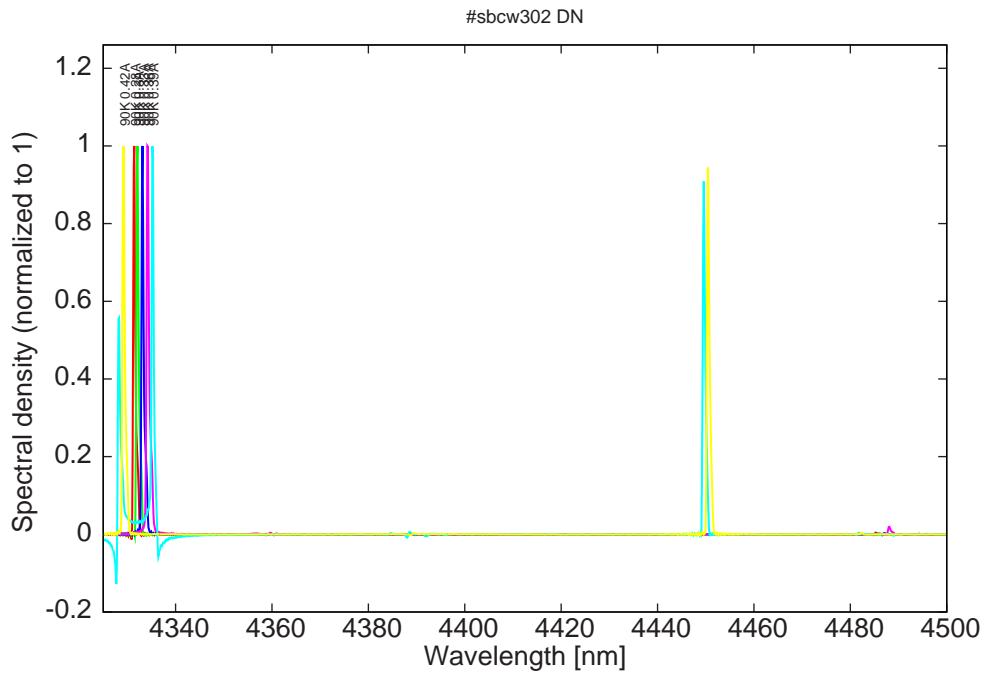


Figure 9: spectra at 90K (become bimode for  $I > 0.36A$ )

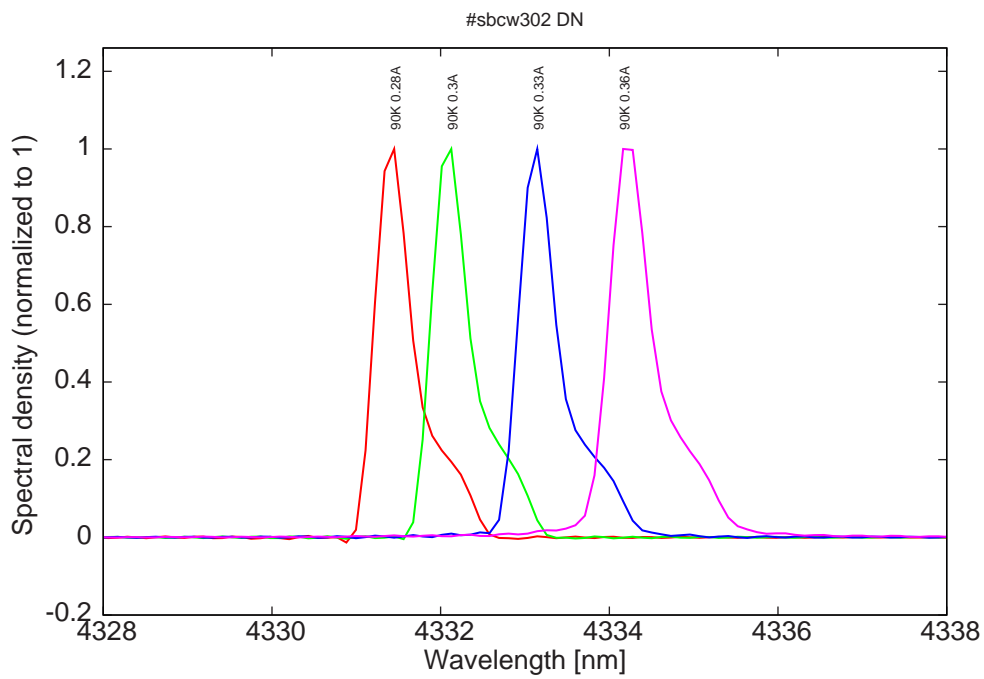


Figure 10: spectra at 90K (monomode range around 4332nm)

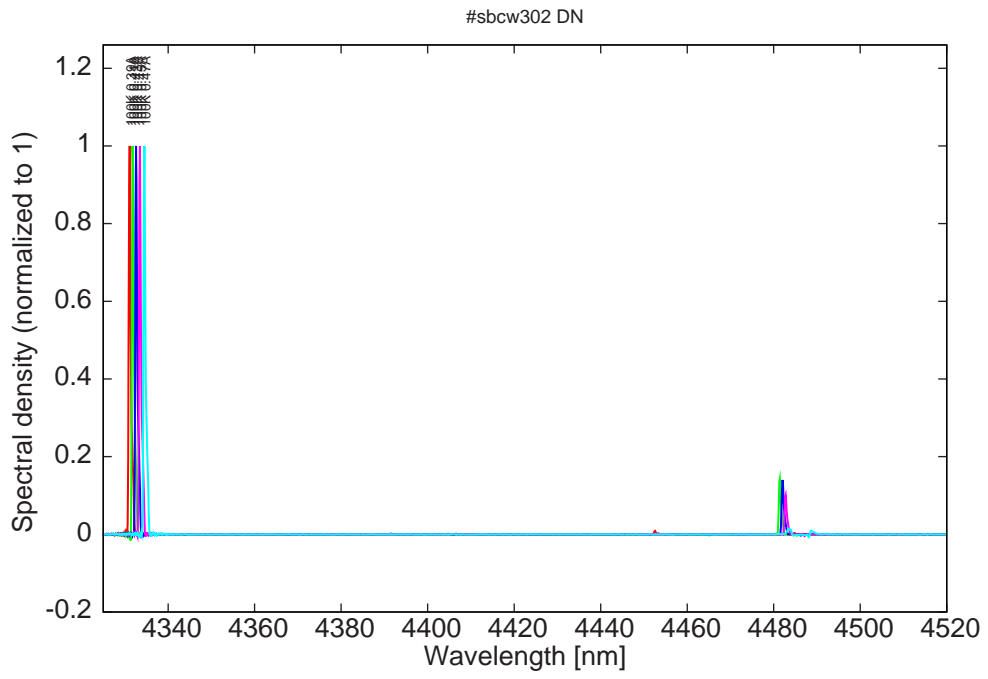


Figure 11: spectra at 100K (mainly bimode)