

Datasheet for #sbcw1868 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/alfaqa.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.

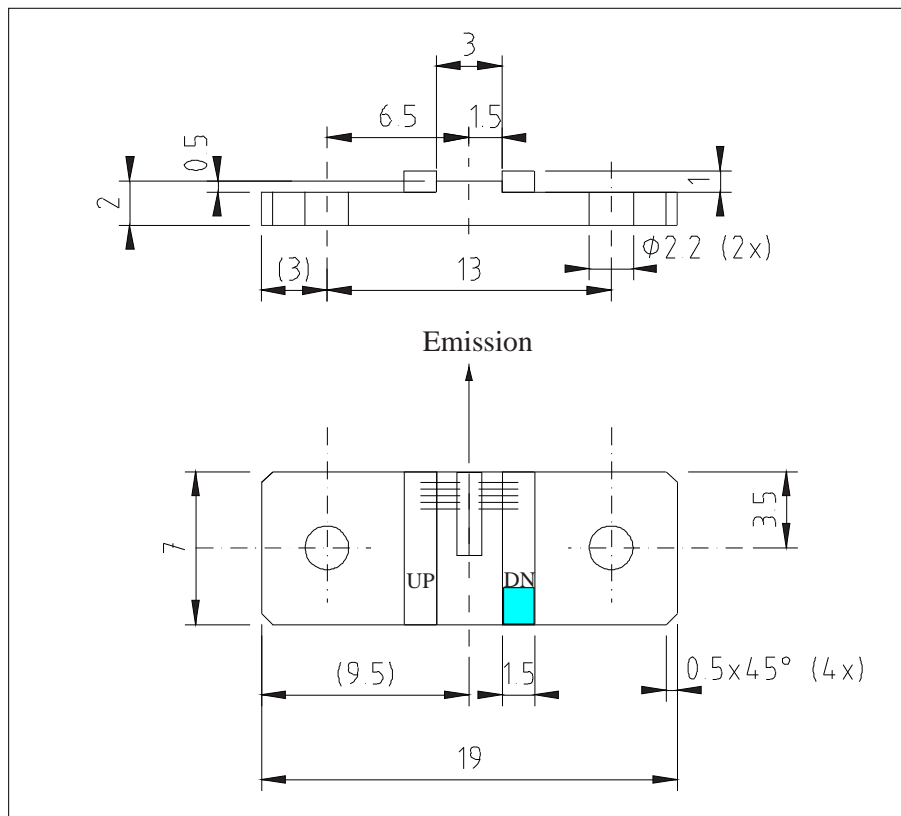


Figure 1: Support mounting for #sbcw1868 DN (please note that the laser is connected to the DN pad drawn in blue)

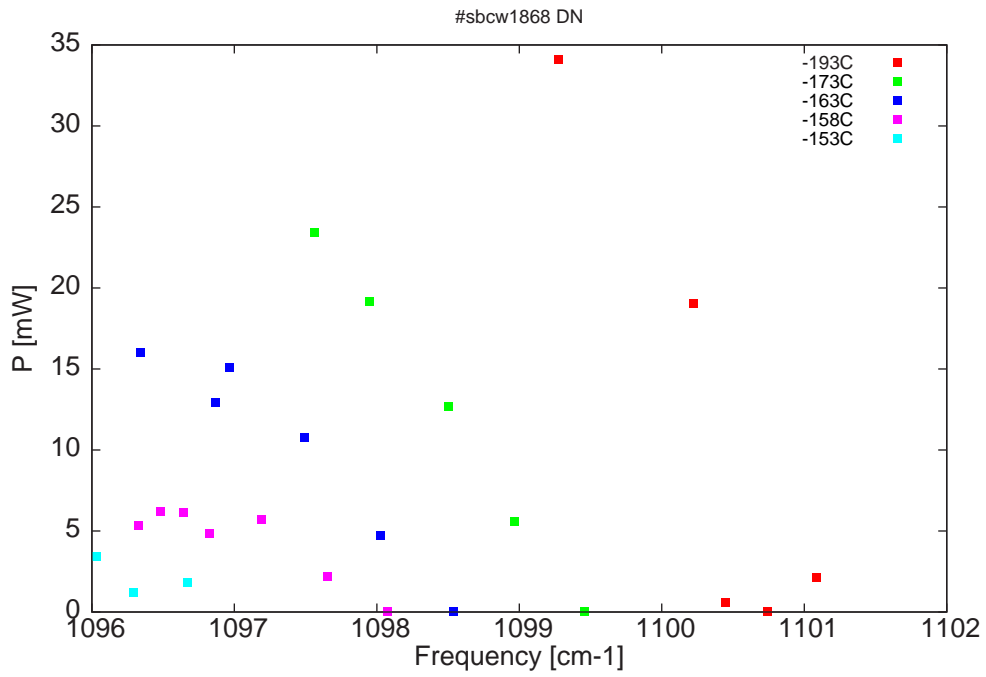


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

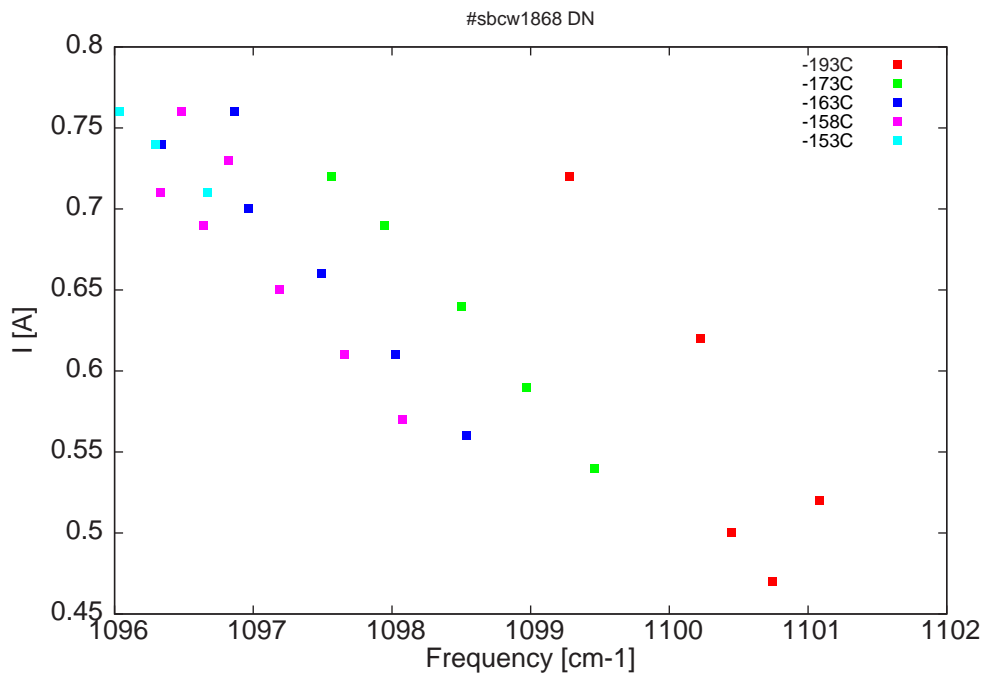


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9084.8	1100.7	0.1	-193	10.8	0.47
9087.2	1100.5	0.6	-193	10.9	0.5
9082	1101.1	2.1	-193	10.9	0.52
9089.1	1100.2	19.1	-193	11.2	0.62
9096.9	1099.3	34.1	-193	11.5	0.72
9095.4	1099.5	0.1	-173	10.6	0.54
9099.4	1099	5.6	-173	10.8	0.59
9103.3	1098.5	12.7	-173	10.9	0.64
9107.9	1097.9	19.1	-173	11.1	0.69
9111.1	1097.6	23.4	-173	11.1	0.72
9103	1098.5	0.1	-163	10.5	0.56
9107.3	1098	4.7	-163	10.7	0.61
9111.7	1097.5	10.8	-163	10.8	0.66
9116	1097	15.1	-163	10.9	0.7
9121.3	1096.3	16	-163	11.1	0.74
9116.9	1096.9	12.9	-163	11.2	0.76
9106.9	1098.1	0.1	-158	10.5	0.57
9110.3	1097.7	2.2	-158	10.6	0.61
9114.2	1097.2	5.7	-158	10.7	0.65
9118.7	1096.6	6.1	-158	10.9	0.69
9121.3	1096.3	5.3	-158	10.9	0.71
9117.2	1096.8	4.9	-158	11	0.73
9120.1	1096.5	6.2	-158	11.1	0.76
9118.5	1096.7	1.8	-153	10.9	0.71
9121.6	1096.3	1.2	-153	10.9	0.74
9123.8	1096	3.4	-153	11	0.76

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

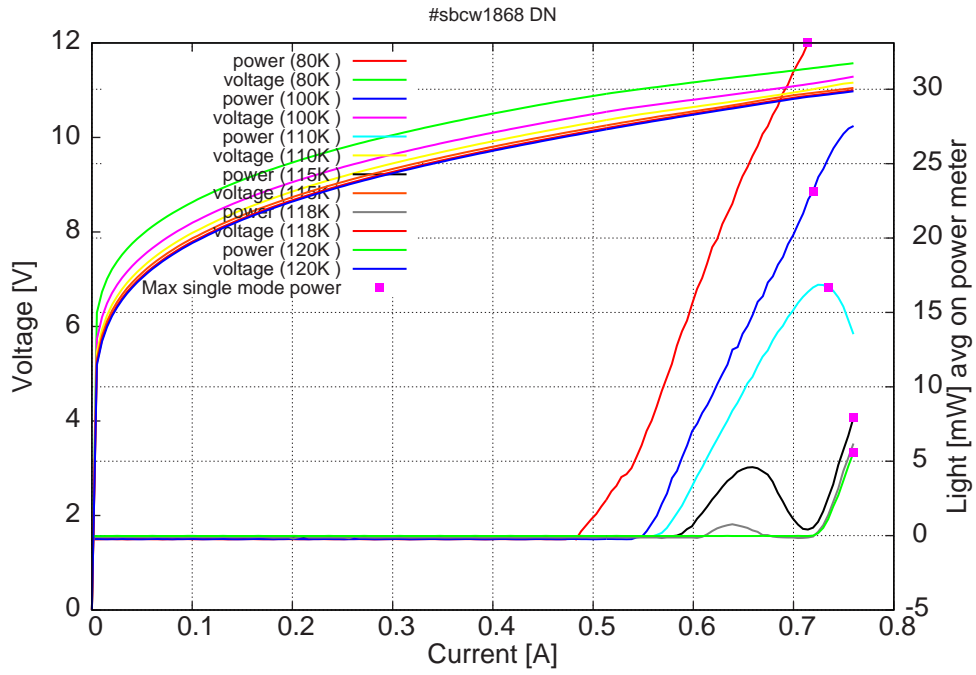
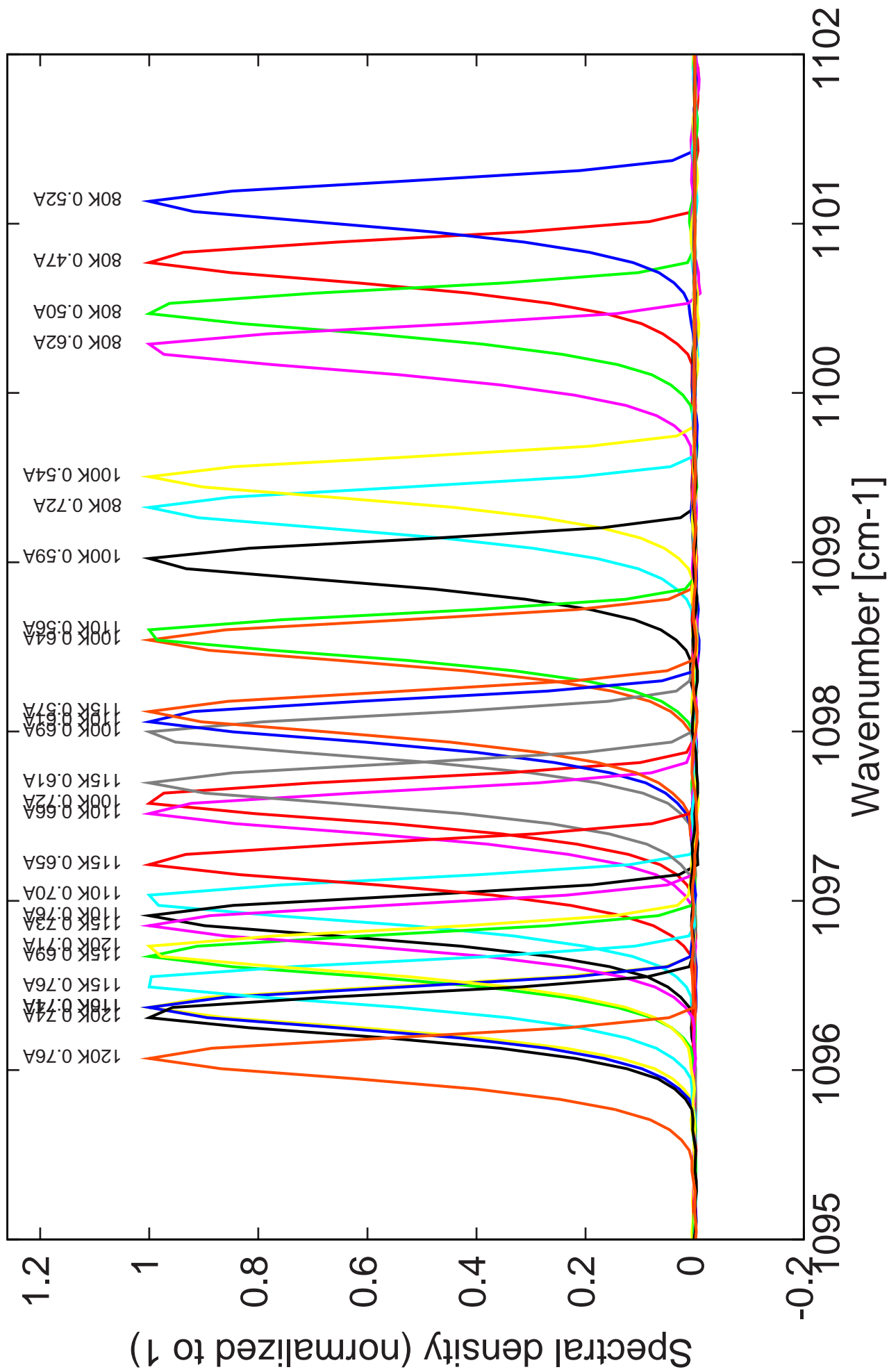


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at 80K: $I_{th}=470\text{mA}$ / $V_{th}= 10.8\text{V}$ (2-wires measurements). Maximum operation current: 0.76A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



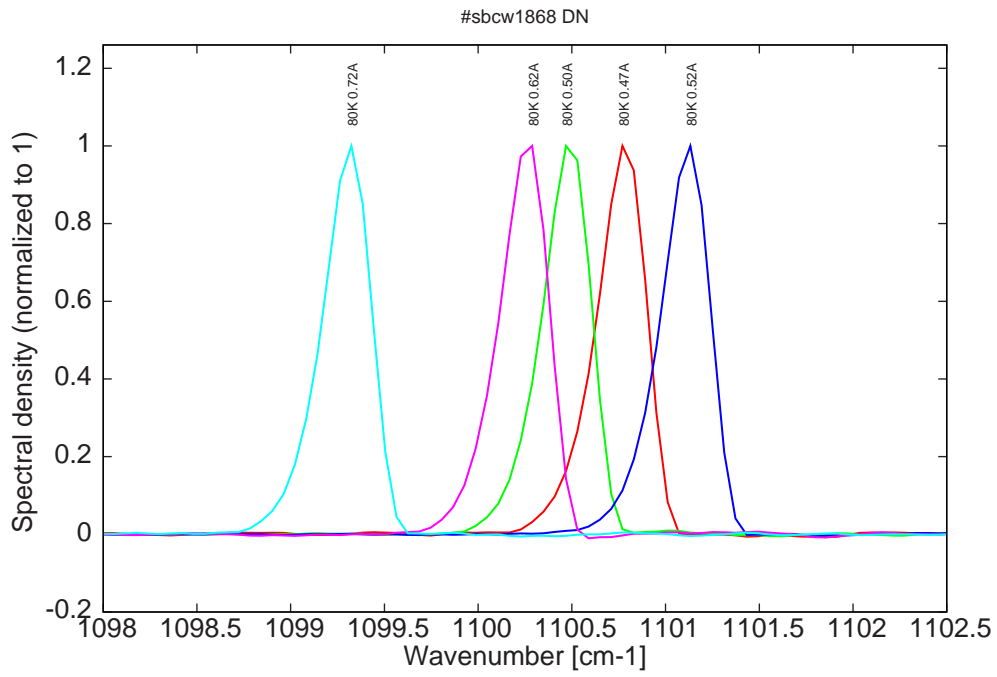


Figure 5: spectra at 80K for various DC currents (mode jumping for $I > 0.50\text{A}$, see Fig. 1)

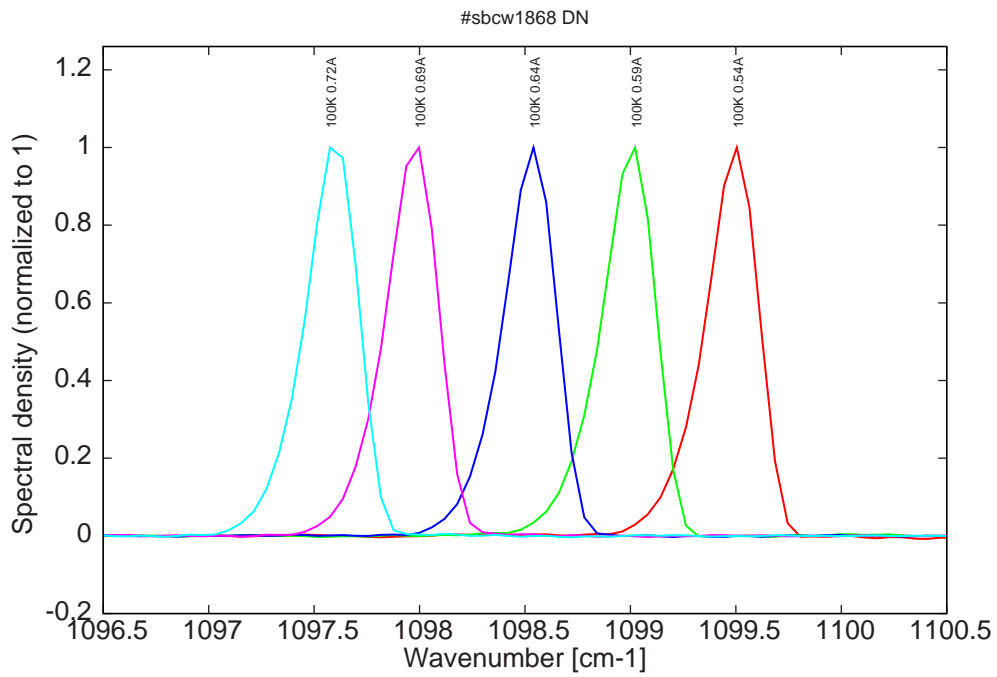


Figure 6: spectra at 100K for various DC currents (all monomode on the same mode as higher currents at 80K, see Fig. 1)

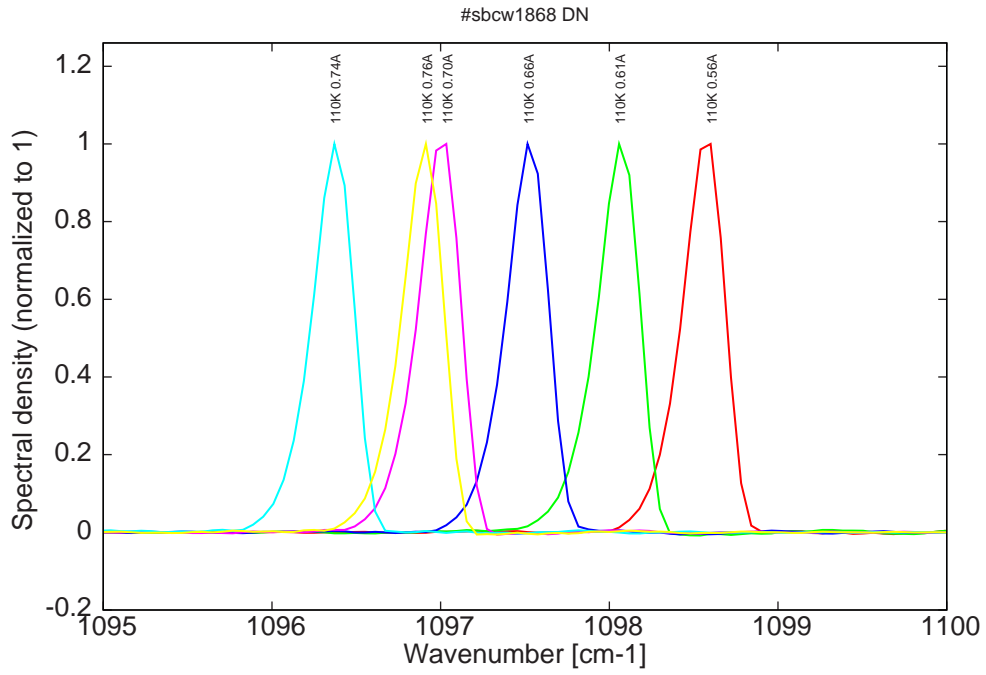


Figure 7: spectra at 110K for various DC currents (on the same mode as at 100K, mode jumping for $I > 0.74A$, see Fig. 1)

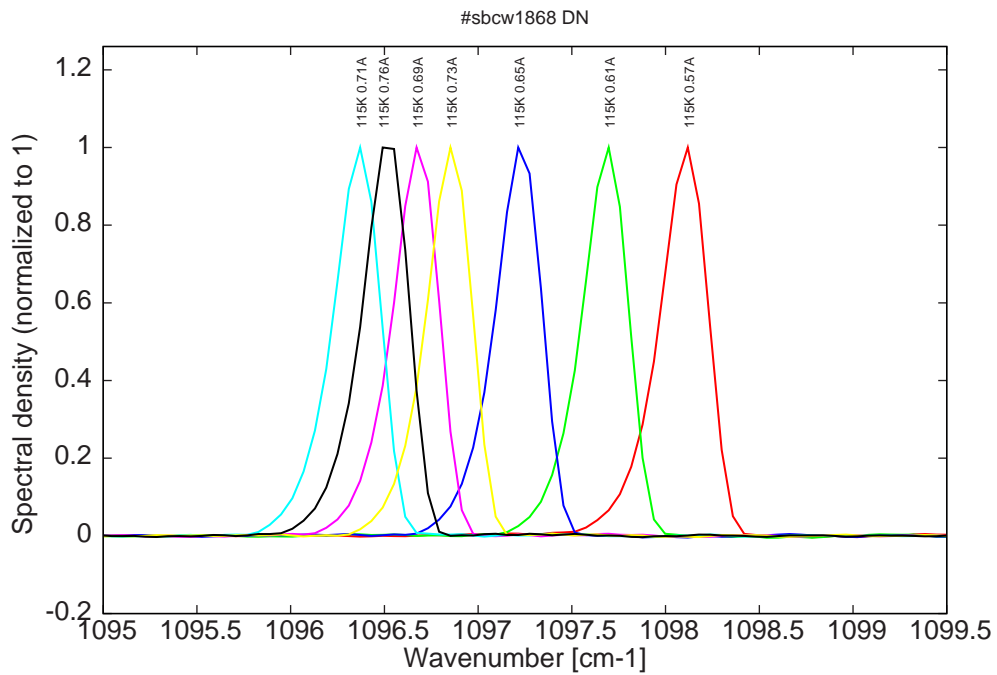


Figure 8: spectra at 115K for various DC currents (on the same mode as at 100K and 110K for lower currents, mode jumping for $I > 0.71A$, see Fig. 1)

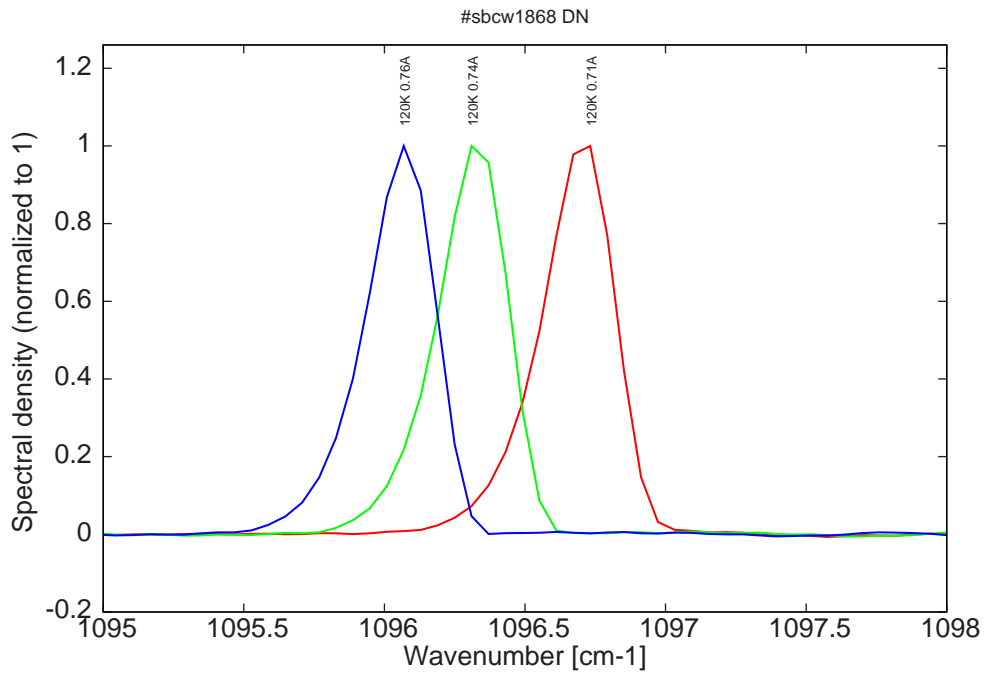


Figure 9: spectra at 120K for various DC currents (all monomode but on the same mode as at 110K and 115K for higher currents, see Fig. 1)