

Datasheet for #sbcw1873 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 #sbcw1873 DN (please note that the laser is connected to the DN pad drawn in blue)

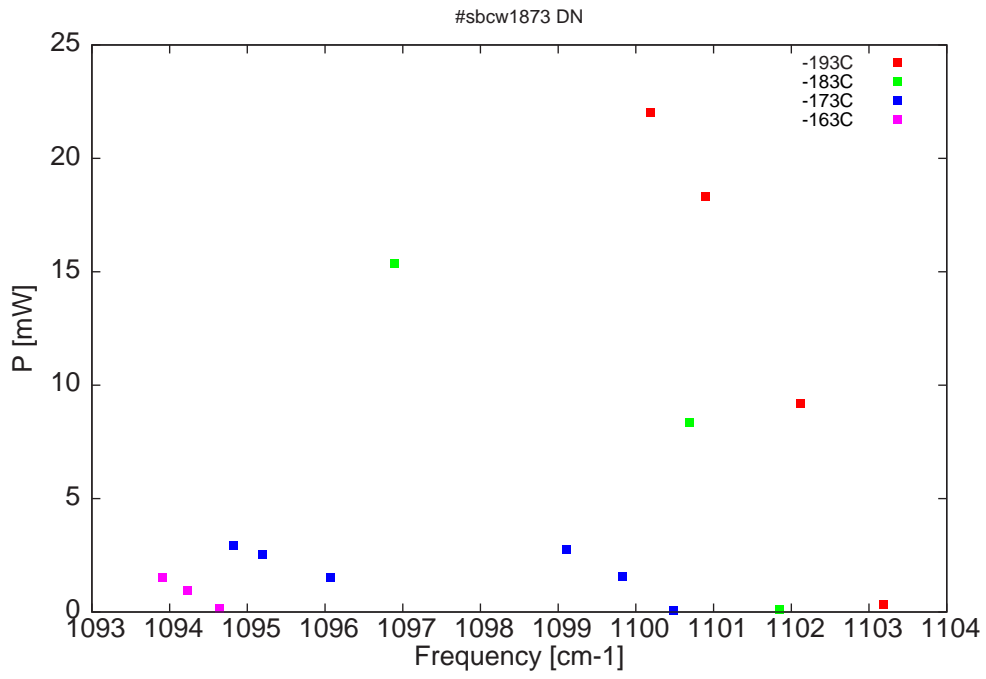


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

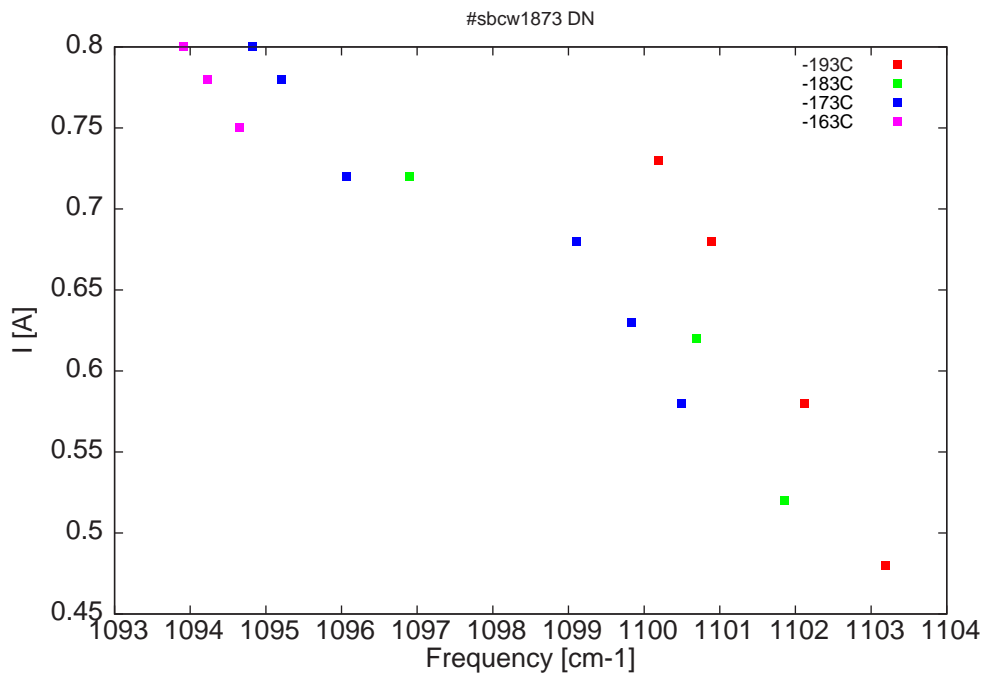


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9064.6	1103.2	0.3	-193	11.2	0.48
9073.4	1102.1	9.2	-193	11.6	0.58
9083.5	1100.9	18.3	-193	12	0.68
9089.4	1100.2	22	-193	12.2	0.73
9075.6	1101.9	0.1	-183	11.1	0.52
9085.2	1100.7	8.4	-183	11.5	0.62
9116.7	1096.9	15.4	-183	11.9	0.72
9086.9	1100.5	0.1	-173	11.2	0.58
9092.3	1099.8	1.6	-173	11.5	0.63
9098.3	1099.1	2.7	-173	11.7	0.68
9123.5	1096.1	1.5	-173	11.8	0.72
9130.7	1095.2	2.5	-173	12.1	0.78
9133.9	1094.8	2.9	-173	12.1	0.8
9135.4	1094.6	0.1	-163	11.8	0.75
9138.8	1094.2	0.9	-163	11.9	0.78
9141.5	1093.9	1.5	-163	12	0.8

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

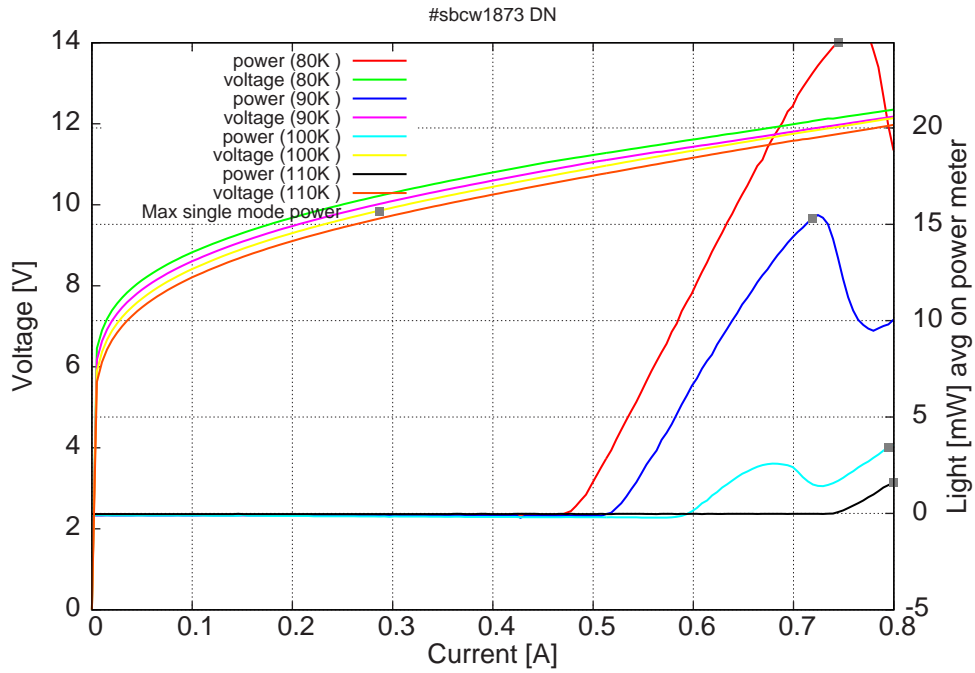


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

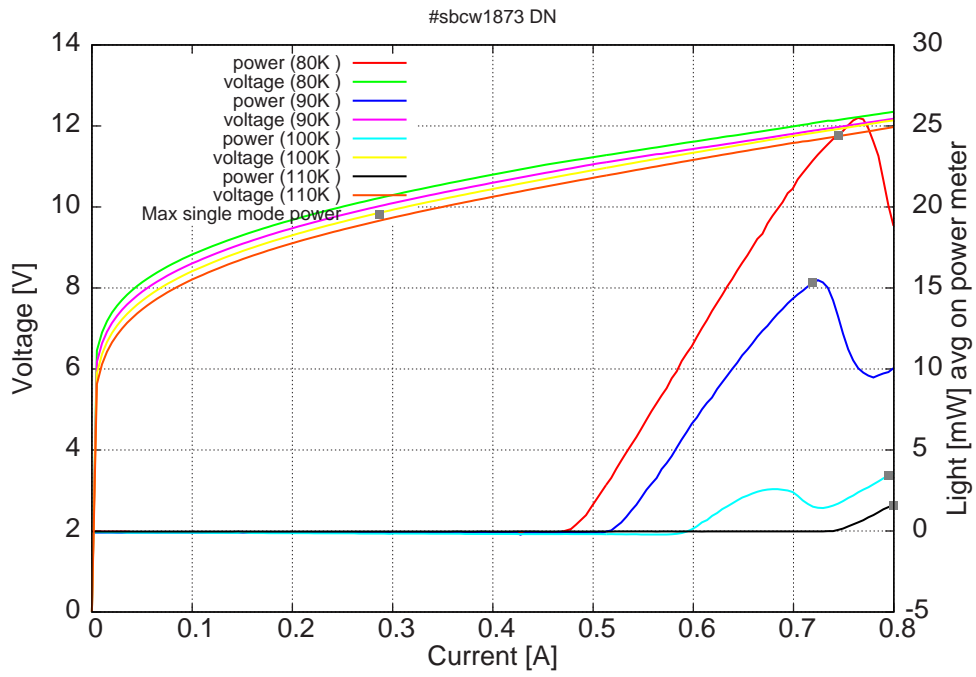
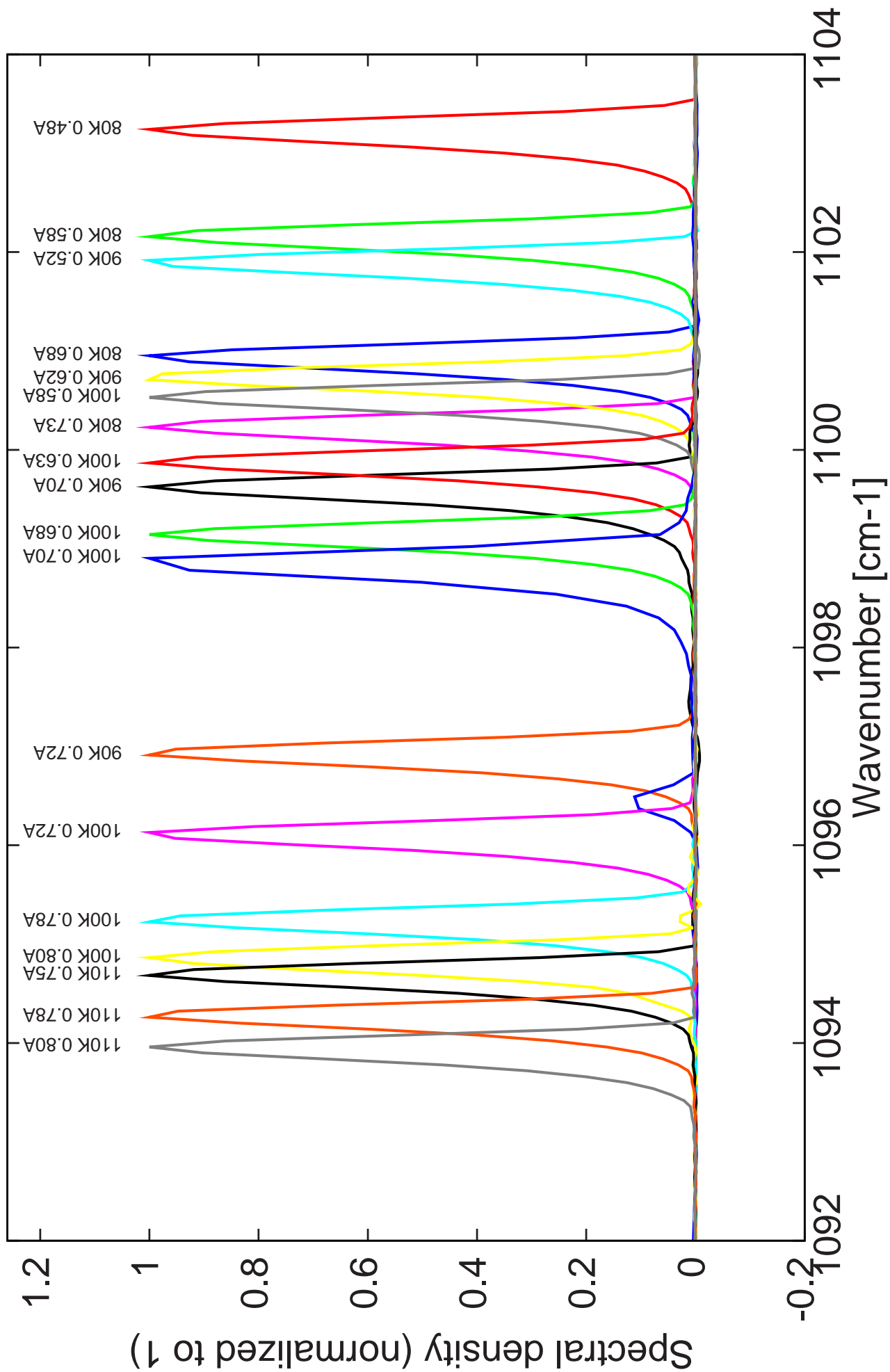


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at 80K: $I_{th}=480\text{mA}$ / $V_{th}= 11.2\text{V}$ (2-wires measurements). Maximum operation current: 0.8A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



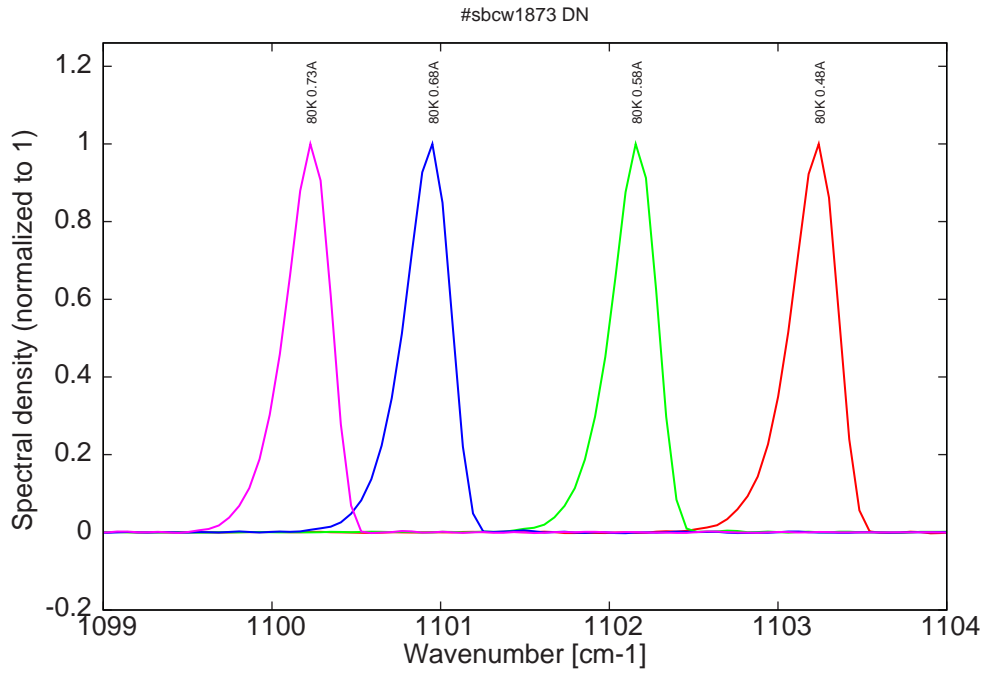


Figure 6: spectra at 80K for various DC currents

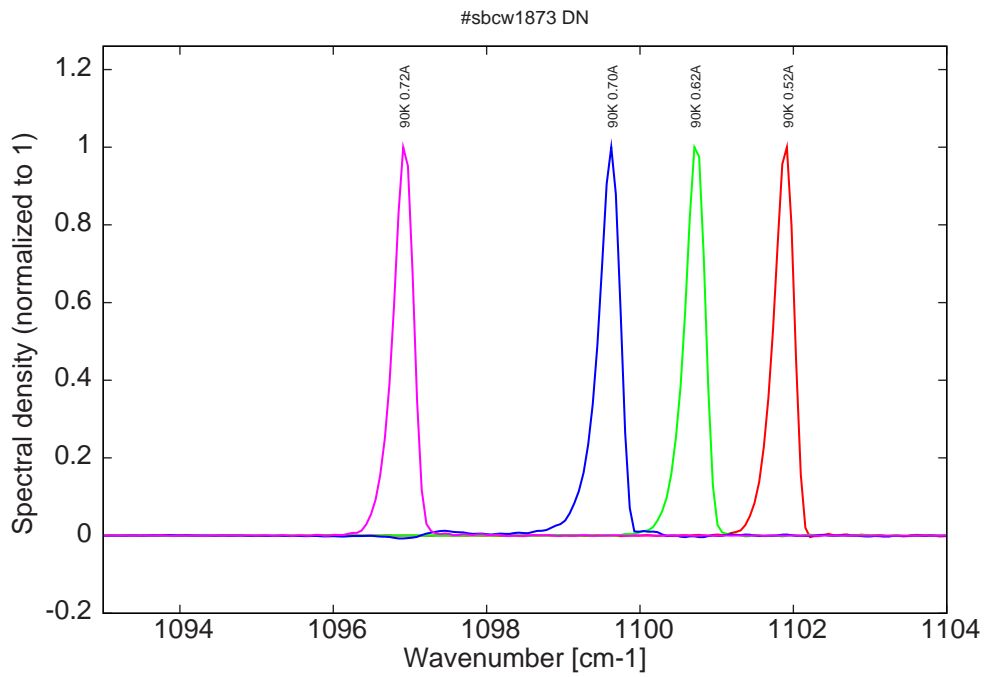


Figure 7: spectra at 90K for various DC currents (for $I < 0.62\text{A}$ monomode on the same mode as at 80K, bimode around 0.70A , monomode for $I > 0.72\text{A}$ with mode jumping, see Fig. 1)

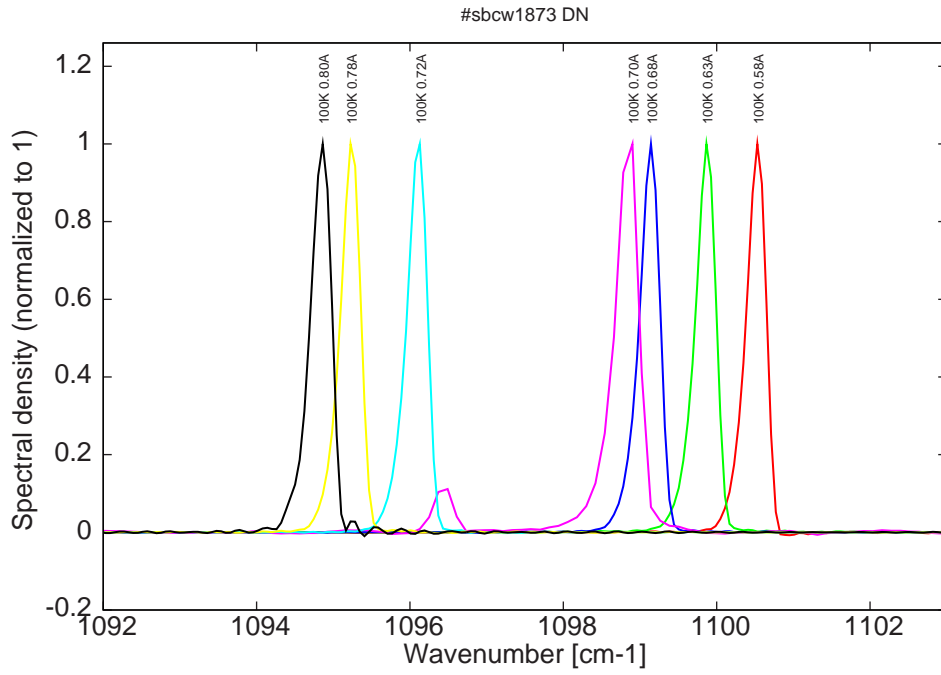


Figure 8: spectra at 100K for various DC currents (for $I < 0.68A$ monomode on the same mode as at 80K, bimode around 0.70A, monomode for $I > 0.72A$ with mode jumping, see Fig. 1)

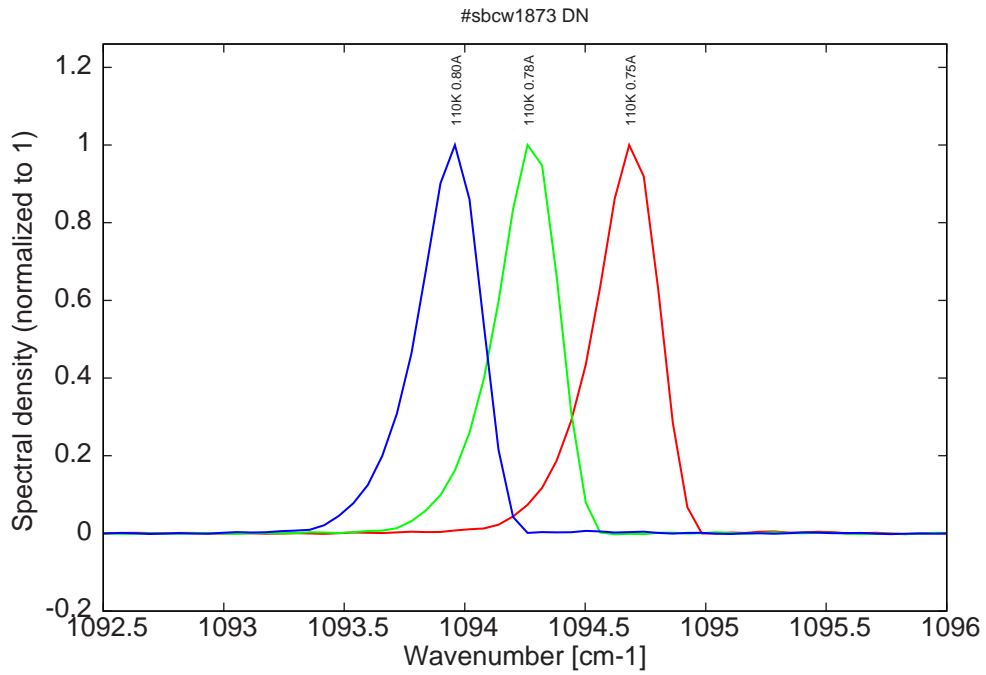


Figure 9: spectra at 110K for various DC currents (all monomode on the same mode as at 90K and 100K for higher currents, see Fig. 1)