

Datasheet for #sbcw6506 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at <http://www.alpeslasers.ch/?a=142>

**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.

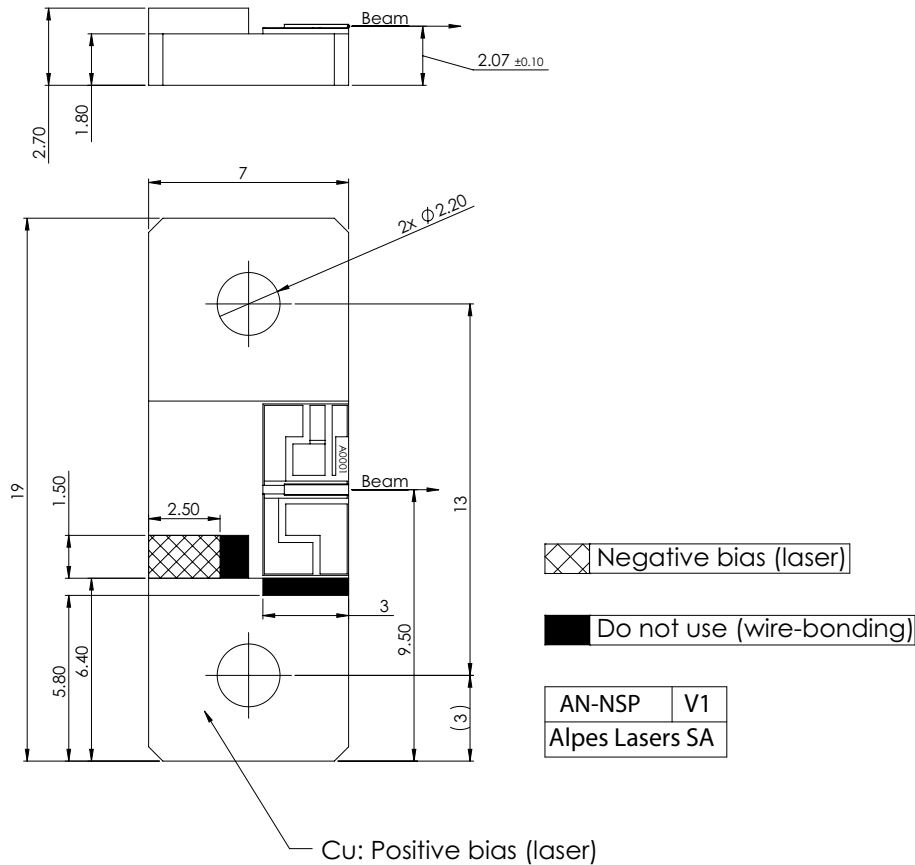


Figure 1: Support mounting for #sbcw6506 DN

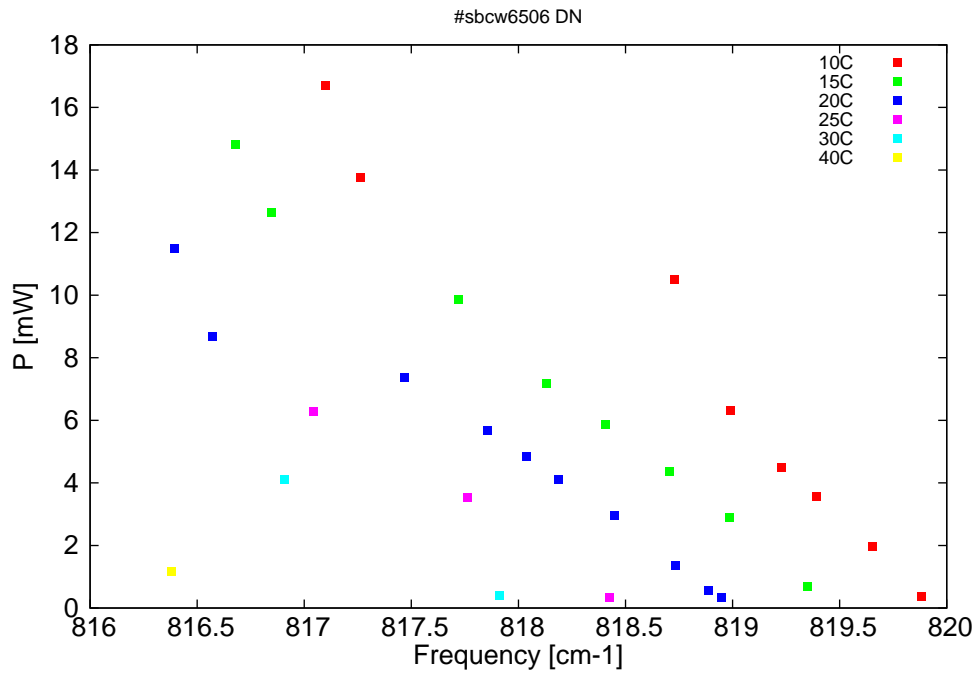


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

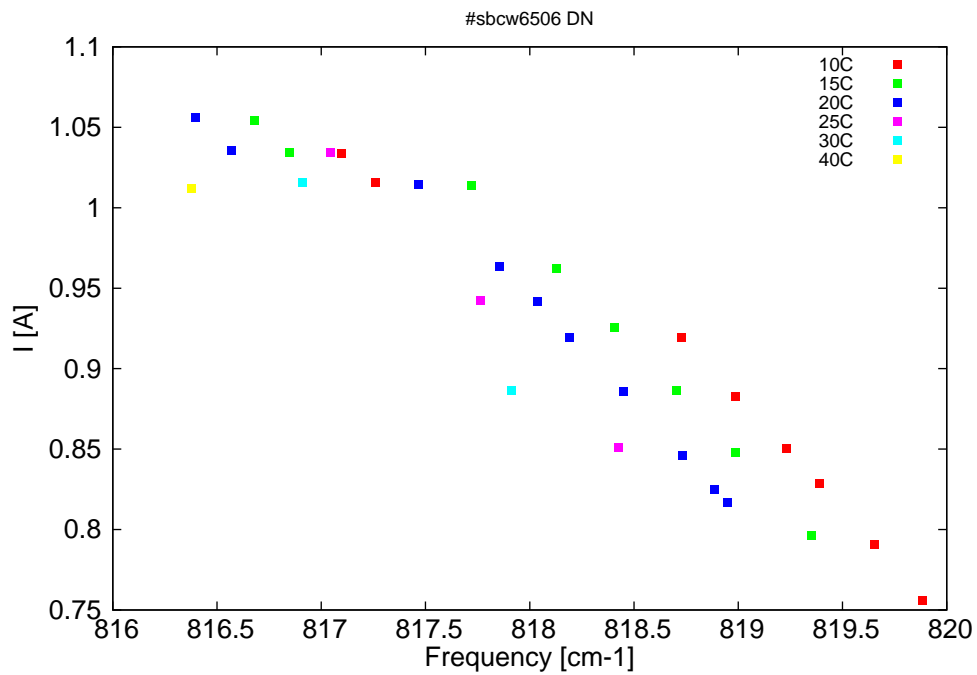


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
12196.8	819.9	0.4	10	10.6	0.76
12200.3	819.7	2	10	10.8	0.79
12204.2	819.4	3.6	10	11	0.83
12206.6	819.2	4.5	10	11.1	0.85
12210.2	819	6.3	10	11.3	0.88
12214.1	818.7	10.5	10	11.4	0.92
12236	817.3	13.8	10	11.8	1.02
12238.4	817.1	16.7	10	12	1.03
12204.8	819.4	0.7	15	10.6	0.8
12210.2	819	2.9	15	11	0.85
12214.4	818.7	4.4	15	11.1	0.89
12218.8	818.4	5.9	15	11.3	0.93
12223	818.1	7.2	15	11.4	0.96
12229.1	817.7	9.9	15	11.6	1.01
12242.2	816.8	12.6	15	11.8	1.03
12244.7	816.7	14.8	15	11.8	1.05
12210.8	818.9	0.3	20	10.6	0.82
12211.7	818.9	0.6	20	10.6	0.82
12214	818.7	1.4	20	10.7	0.85
12218.2	818.4	3	20	10.9	0.89
12222.1	818.2	4.1	20	11.1	0.92
12224.4	818	4.8	20	11.2	0.94
12227.1	817.9	5.7	20	11.3	0.96
12232.9	817.5	7.4	20	11.5	1.01
12246.4	816.6	8.7	20	11.6	1.04
12249	816.4	11.5	20	11.6	1.06
12218.6	818.4	0.3	25	10.6	0.85
12228.5	817.8	3.5	25	11	0.94
12239.3	817	6.3	25	11.4	1.03
12226.2	817.9	0.4	30	10.6	0.89
12241.3	816.9	4.1	30	11.1	1.02
12249.2	816.4	1.2	40	10.8	1.01

Table 1: Singlemode optical output power as function of operating parameters.

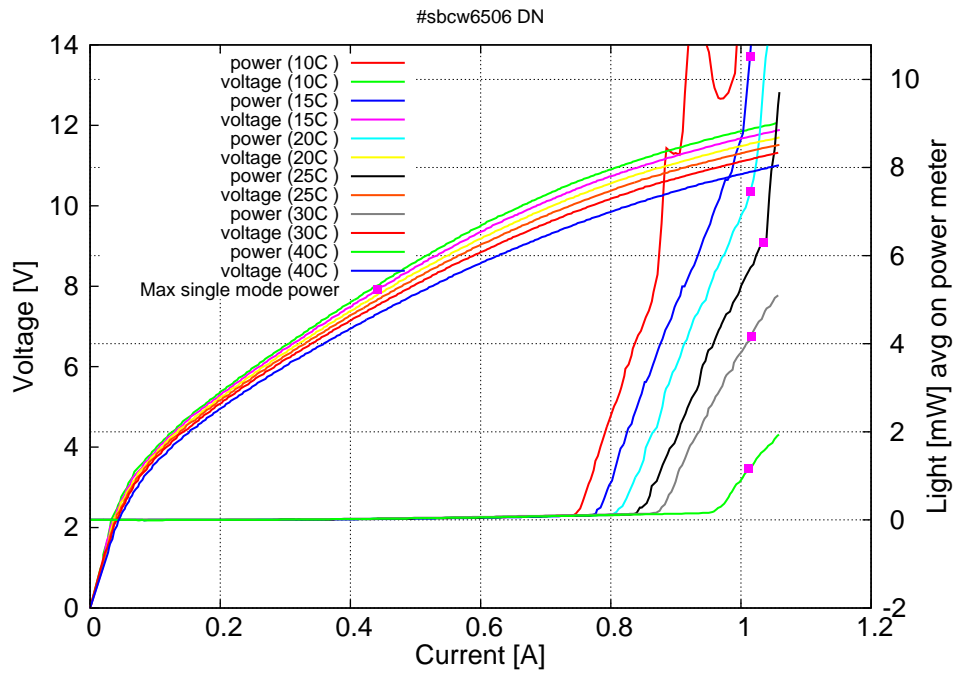
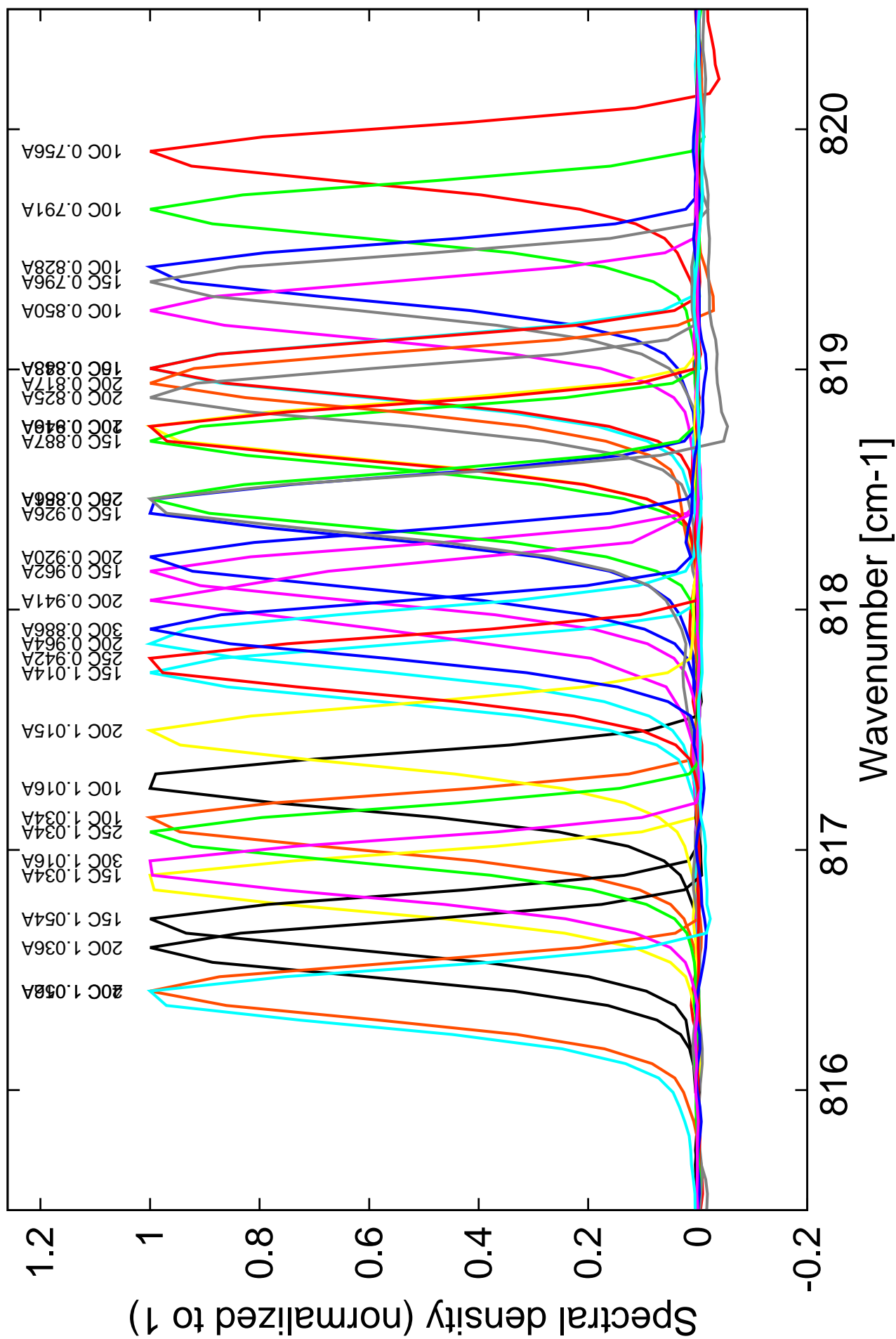


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at 10C:  $I_{th}=0.75A$  /  $V_{th}=10.6V$  (2-wires measurements). Maximum operation current: 1.06A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



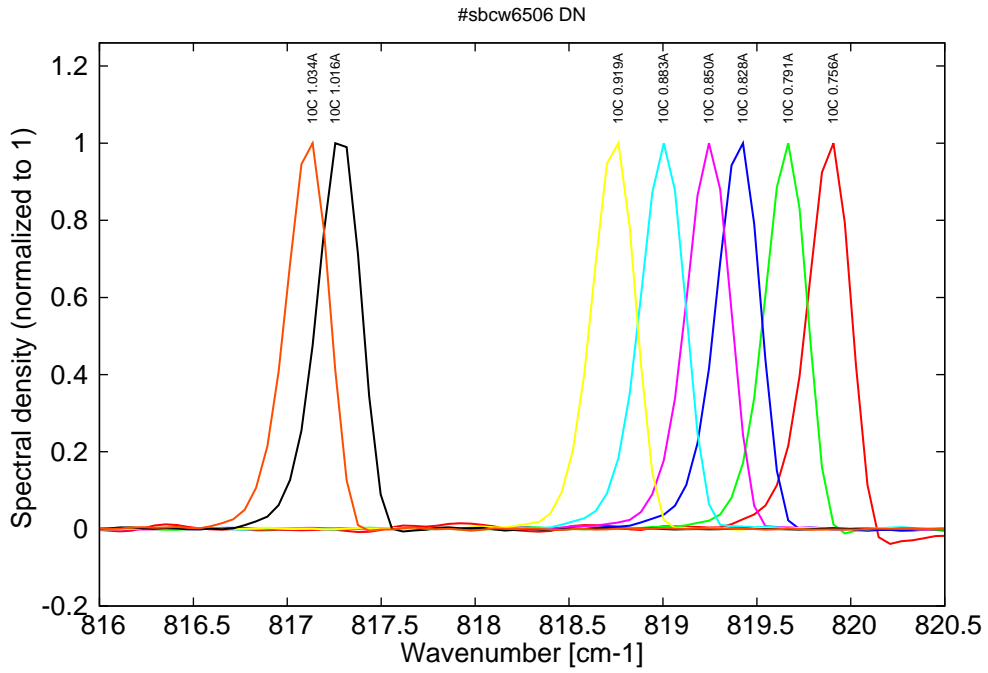


Figure 5: spectra at 10C for various DC currents (monomode on mode 1 up to 0.85A, then mode jumpings, see kink in LI in Fig. 2 & 3)

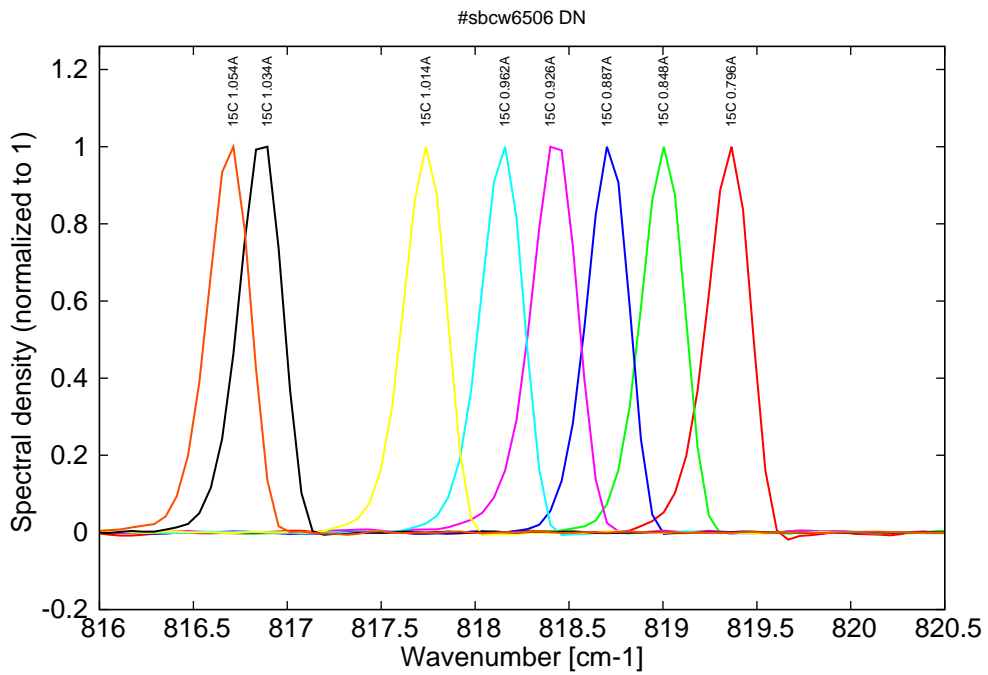


Figure 6: spectra at 15C for various DC currents (monomode on mode 1 up to 1.01A, then mode jumping on mode 2, see kink in LI in Fig. 2 & 3)

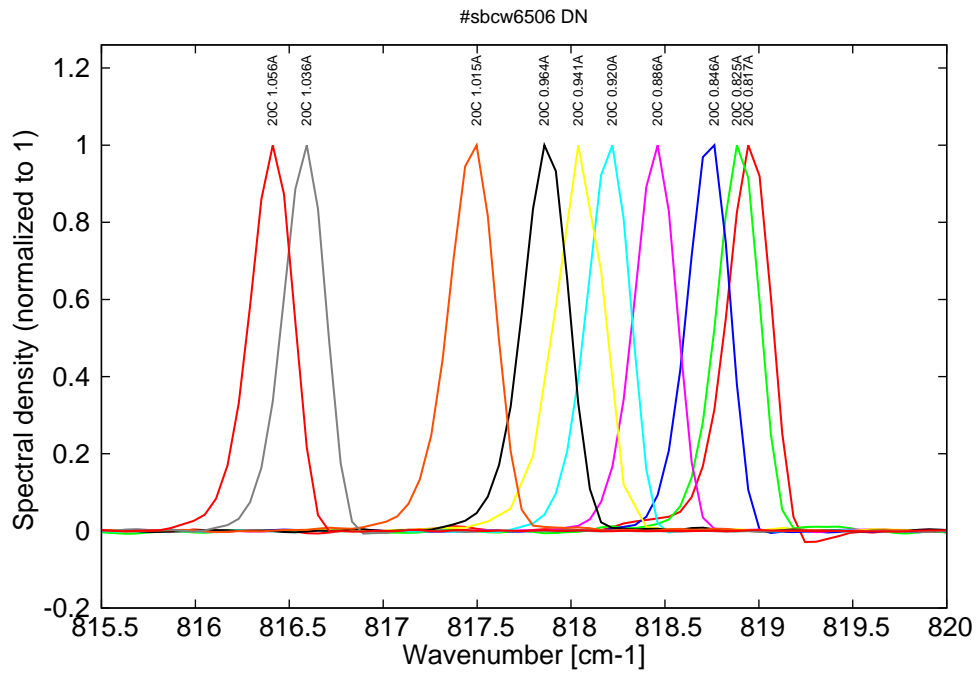


Figure 7: spectra at 20C for various DC currents (monomode on mode 1 up to 1.01A, then mode jumping on mode 2, see kink in LI in Fig. 2 & 3)

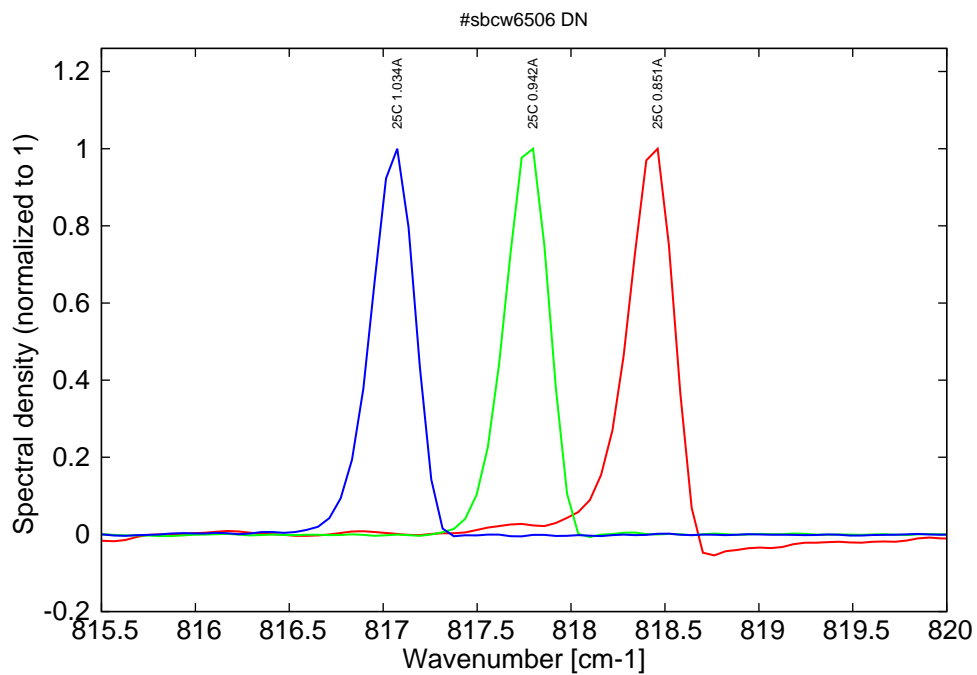


Figure 8: spectra at 25C for various DC currents (monomode on mode 1 up to 1.035A, then mode jumping on mode 2, see kink in LI in Fig. 2 & 3)

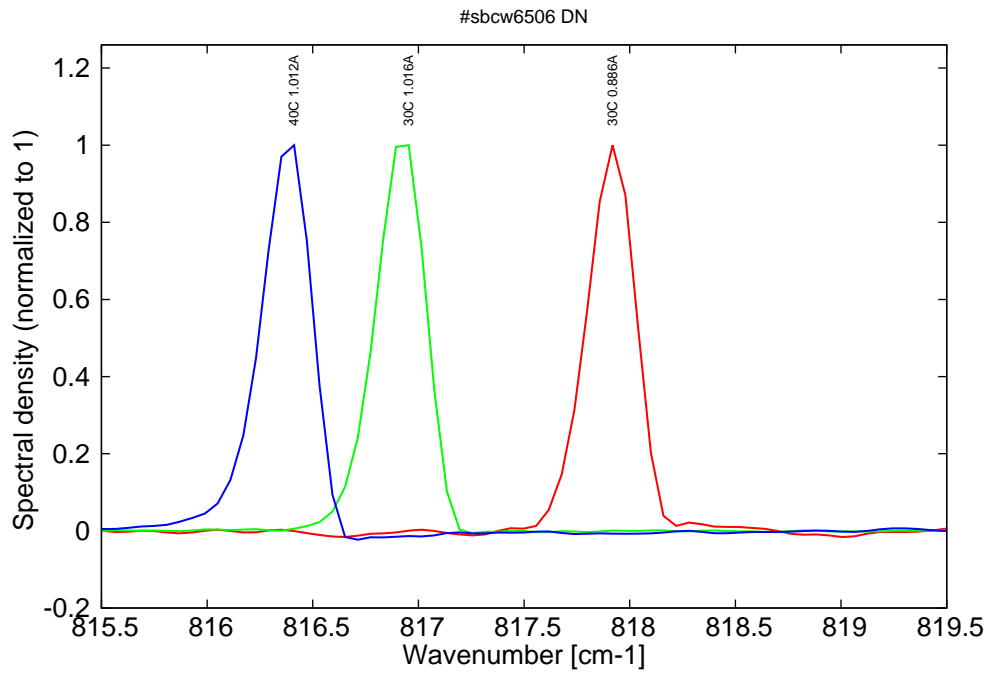


Figure 9: spectra at 30C and 40C for various DC currents (monomode on mode 1)