

Datasheet for #sbcw8550 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 bias and positive bias on the specific zones drawn below. To use with an ILX Lightwave LDX-3232 laser driver, or equivalent.

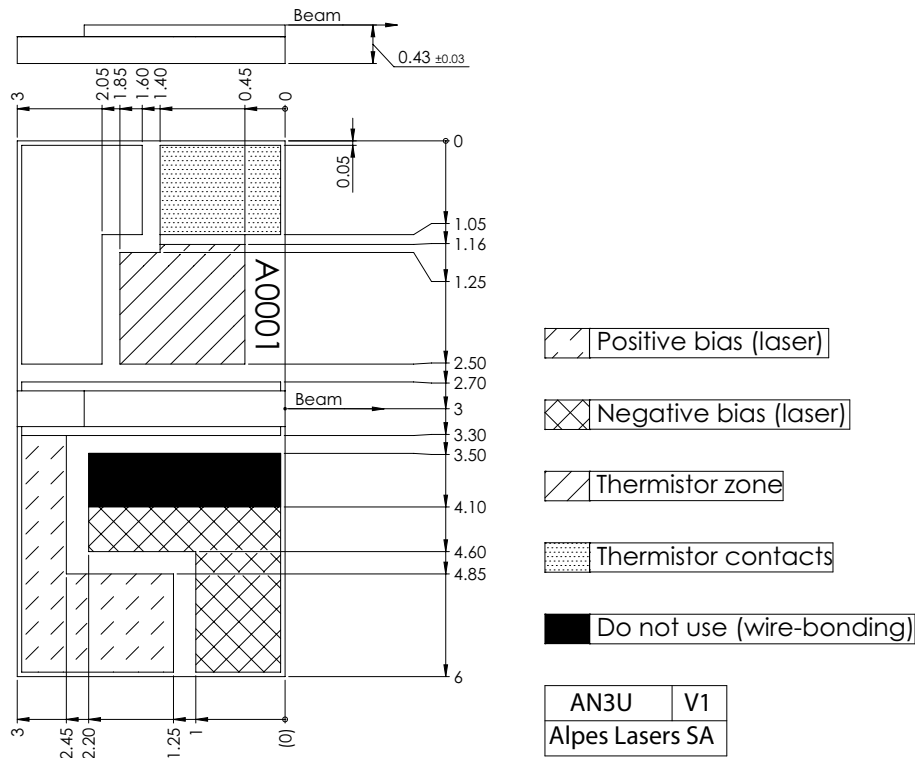


Figure 1: Support mounting for #sbcw8550 DN (please note that AlN submount numbering is A035Y)

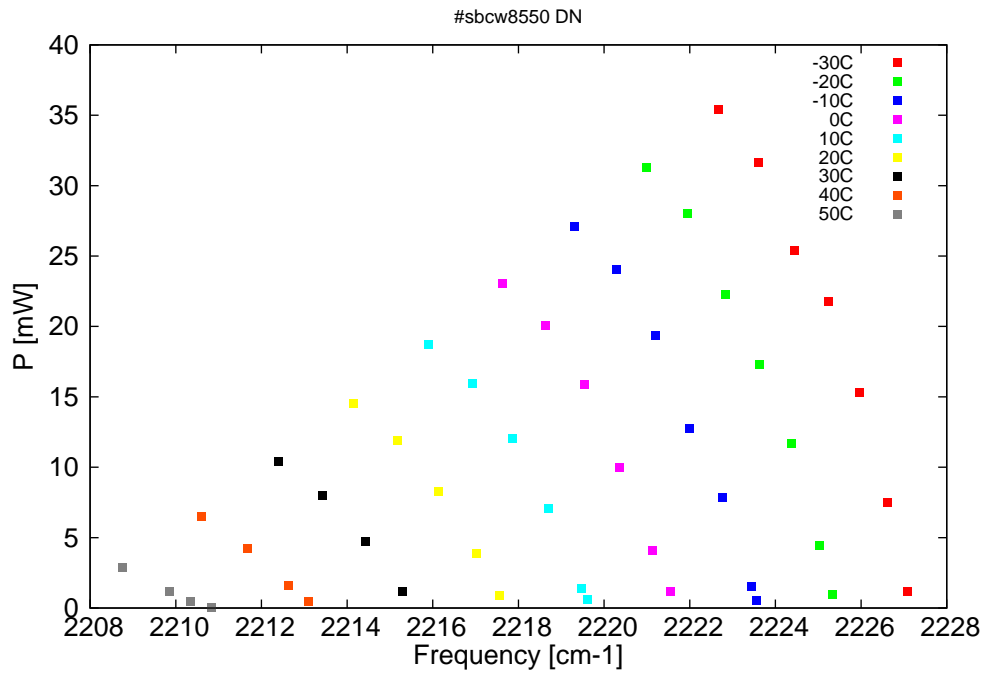


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

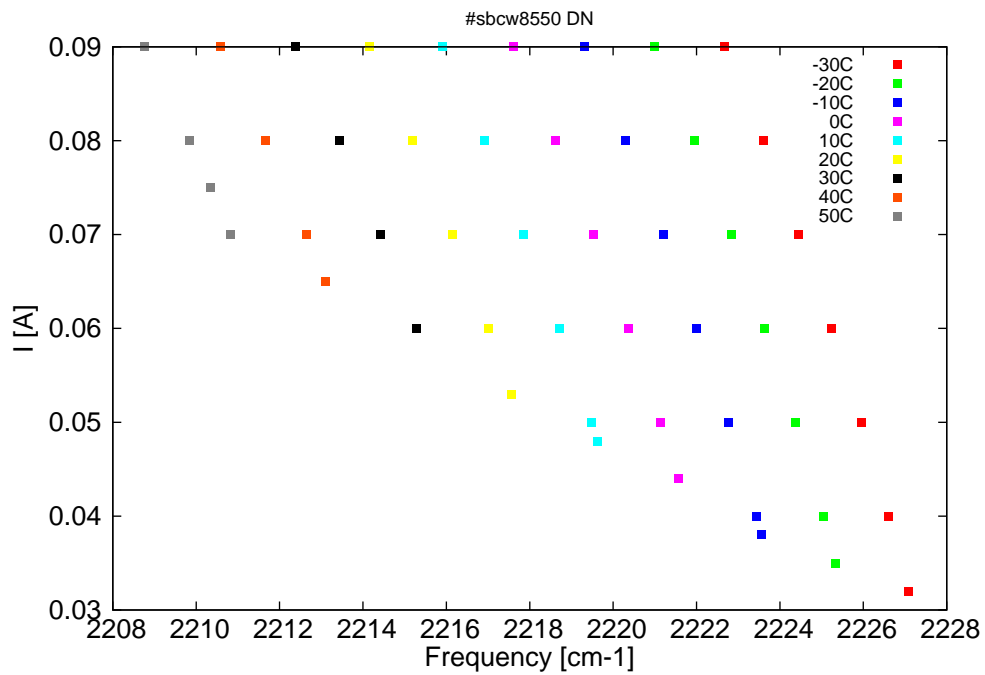


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4490.2	2227.1	1.2	-30	12.9	0.03
4491.1	2226.6	7.5	-30	13.1	0.04
4492.4	2226	15.3	-30	13.4	0.05
4493.9	2225.2	21.8	-30	13.7	0.06
4495.5	2224.4	25.4	-30	14	0.07
4497.2	2223.6	31.7	-30	14.2	0.08
4499.1	2222.7	35.4	-30	14.5	0.09
4493.7	2225.3	0.9	-20	12.9	0.04
4494.3	2225	4.4	-20	13	0.04
4495.7	2224.4	11.7	-20	13.3	0.05
4497.2	2223.6	17.3	-20	13.6	0.06
4498.8	2222.8	22.3	-20	13.8	0.07
4500.5	2222	28	-20	14.1	0.08
4502.5	2221	31.3	-20	14.4	0.09
4497.3	2223.6	0.5	-10	12.9	0.04
4497.5	2223.4	1.5	-10	12.9	0.04
4498.9	2222.8	7.9	-10	13.2	0.05
4500.5	2222	12.8	-10	13.5	0.06
4502.1	2221.2	19.4	-10	13.7	0.07
4503.9	2220.3	24	-10	14	0.08
4505.9	2219.3	27.1	-10	14.3	0.09
4501.4	2221.6	1.2	0	13	0.04
4502.2	2221.1	4.1	0	13.1	0.05
4503.8	2220.4	10	0	13.4	0.06
4505.4	2219.5	15.9	0	13.6	0.07
4507.3	2218.6	20.1	0	13.9	0.08
4509.3	2217.6	23	0	14.2	0.09
4505.3	2219.6	0.6	10	13	0.05
4505.6	2219.5	1.4	10	13.1	0.05
4507.1	2218.7	7.1	10	13.3	0.06
4508.9	2217.9	12.1	10	13.5	0.07
4510.8	2216.9	15.9	10	13.8	0.08
4512.8	2215.9	18.7	10	14.1	0.09
4509.4	2217.6	0.9	20	13.1	0.05
4510.6	2217	3.9	20	13.2	0.06
4512.3	2216.1	8.3	20	13.5	0.07
4514.3	2215.2	11.9	20	13.7	0.08
4516.4	2214.2	14.5	20	14	0.09
4514.1	2215.3	1.1	30	13.2	0.06
4515.9	2214.4	4.7	30	13.4	0.07
4517.9	2213.4	8	30	13.6	0.08
4520	2212.4	10.4	30	13.9	0.09
4518.6	2213.1	0.5	40	13.2	0.07
4519.5	2212.6	1.6	40	13.3	0.07
4521.5	2211.7	4.3	40	13.6	0.08
4523.7	2210.6	6.5	40	13.8	0.09
4523.2	2210.8	0.1	50	13.3	0.07
4524.2	2210.3	0.4	50	13.4	0.08
4525.2	2209.9	1.2	50	13.5	0.08

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4527.4	2208.8	2.9	50	13.7	0.09

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

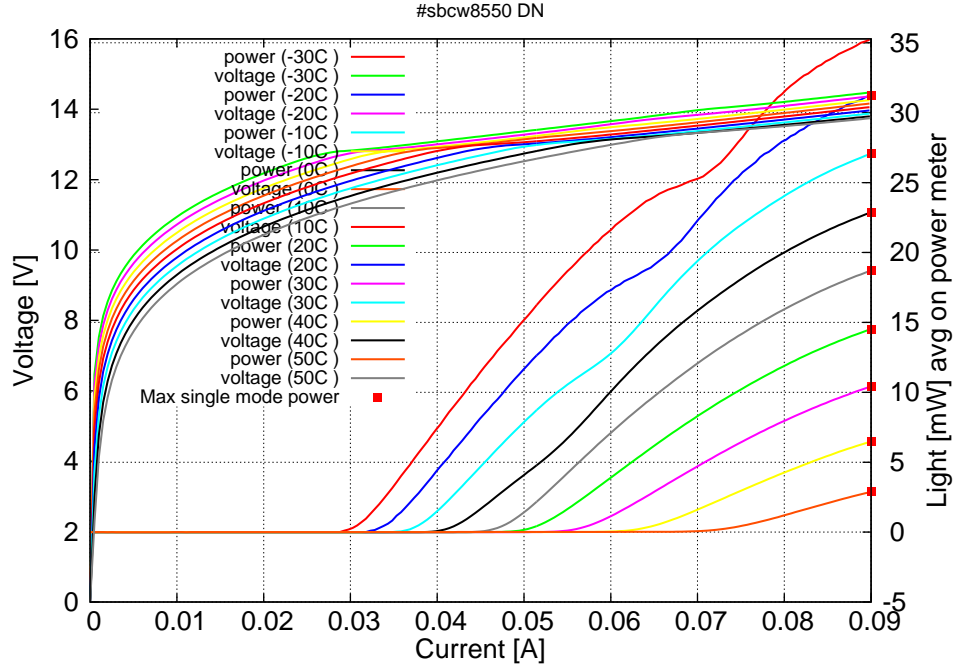
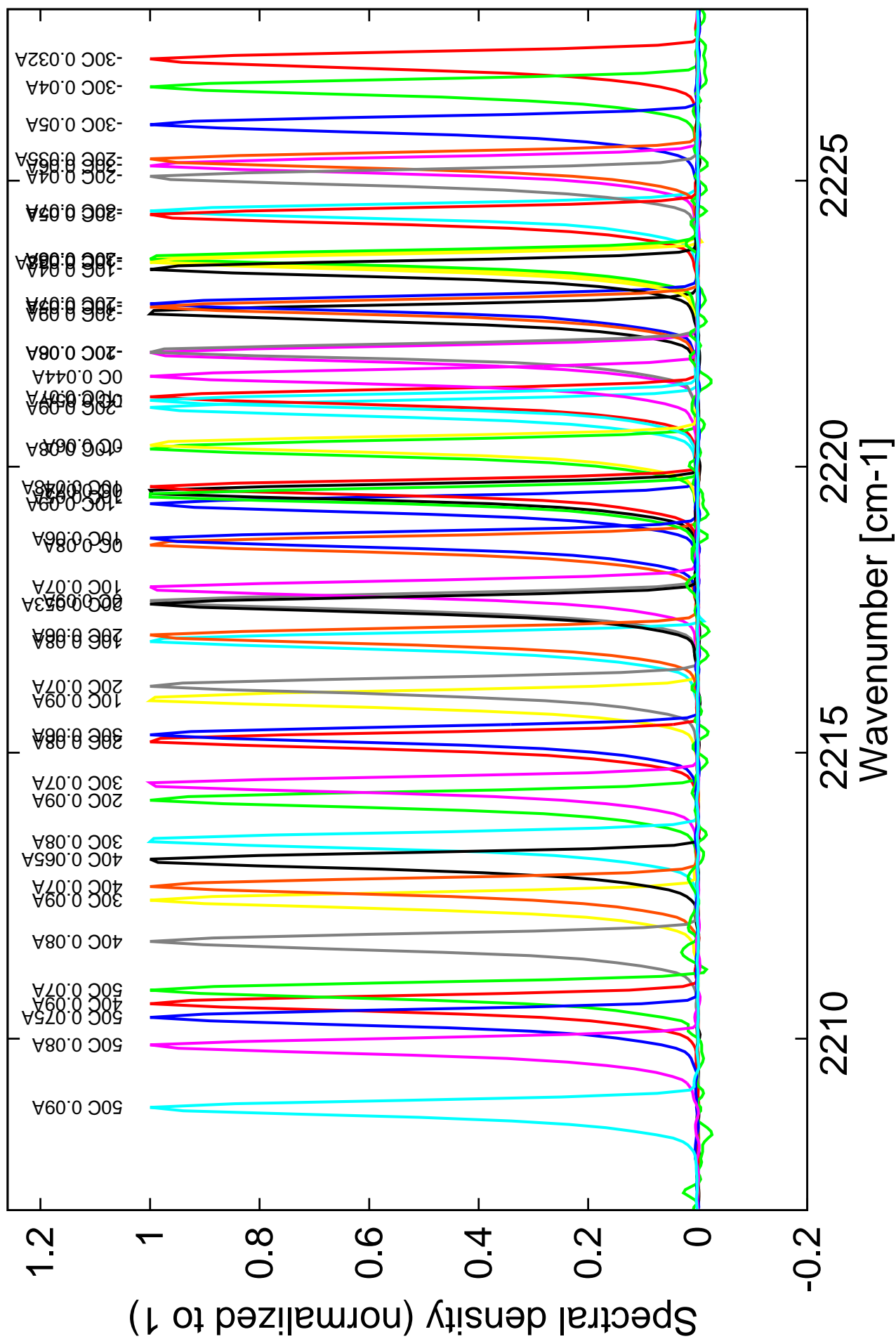


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -30C: $I_{th}=0.03A$ / $V_{th}=12.7V$ (2-wires measurements). Maximum operation current: 0.090A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



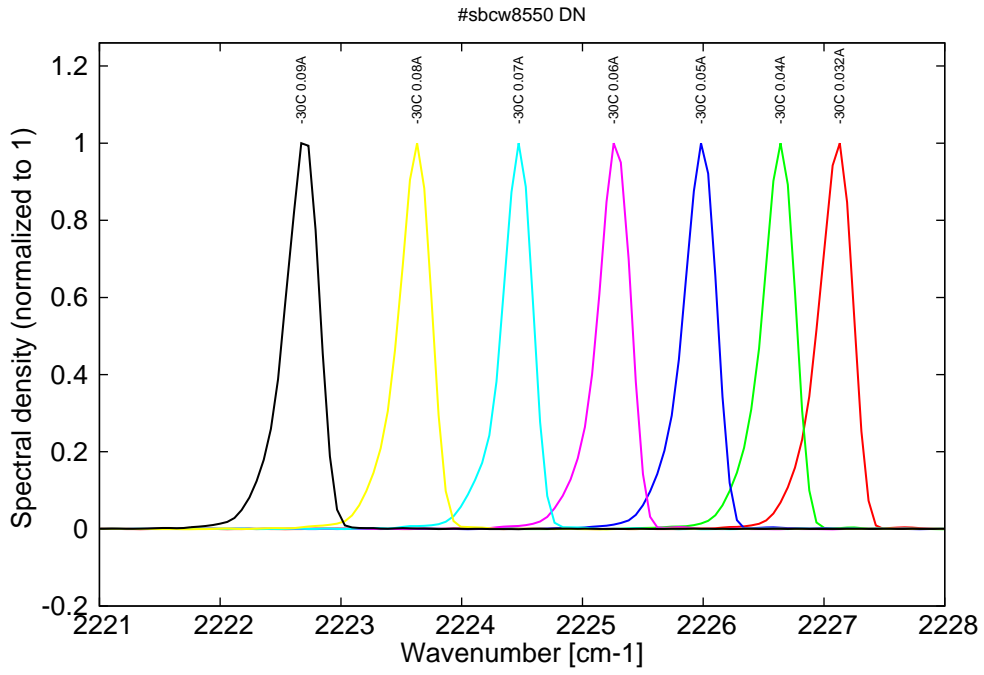


Figure 5: spectra at -30C for various DC currents (monomode on mode 1 up to 70mA, then monomode on mode 2, see kink in LIV)

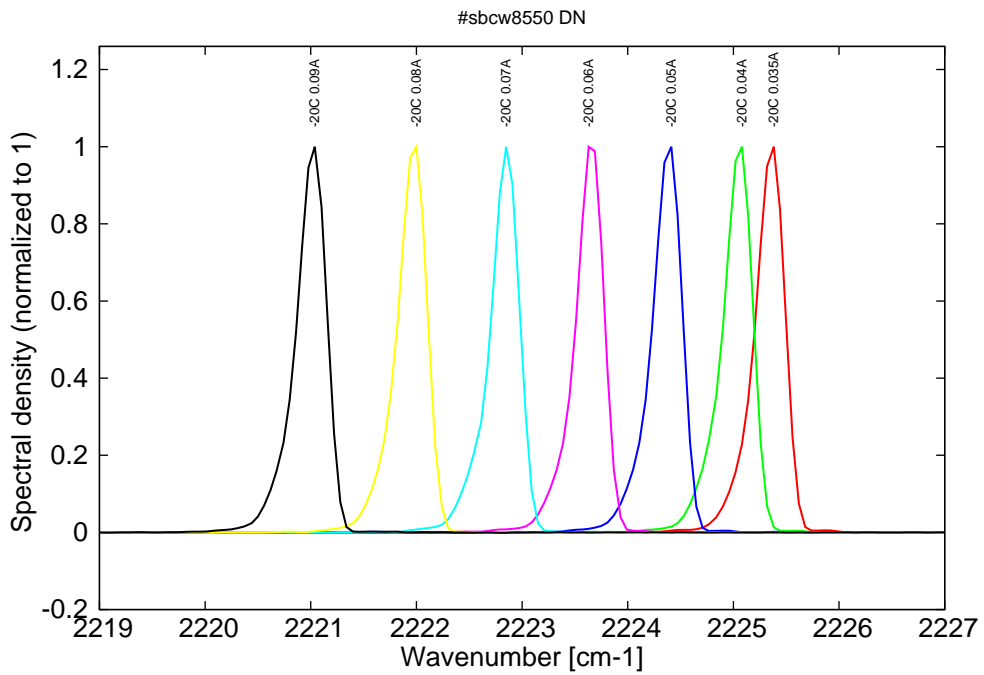


Figure 6: spectra at -20C for various DC currents (monomode on mode 1 up to 60mA, then monomode on mode 2, see kink in LIV)

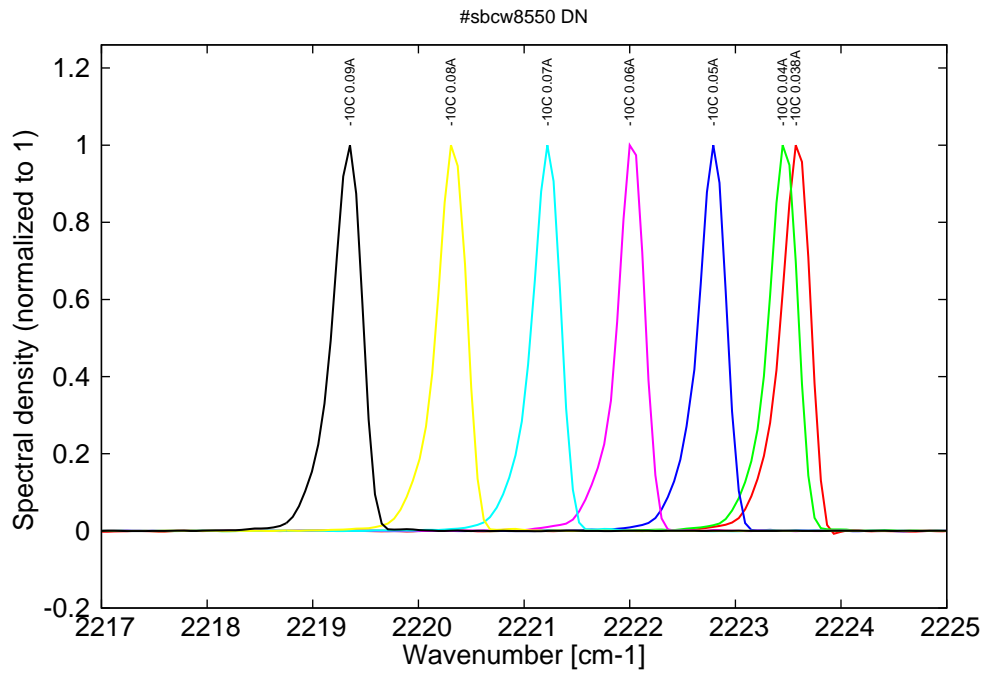


Figure 7: spectra at -10C for various DC currents (monomode on mode 1 up to 50mA, then monomode on mode 2, see kink in LIV)

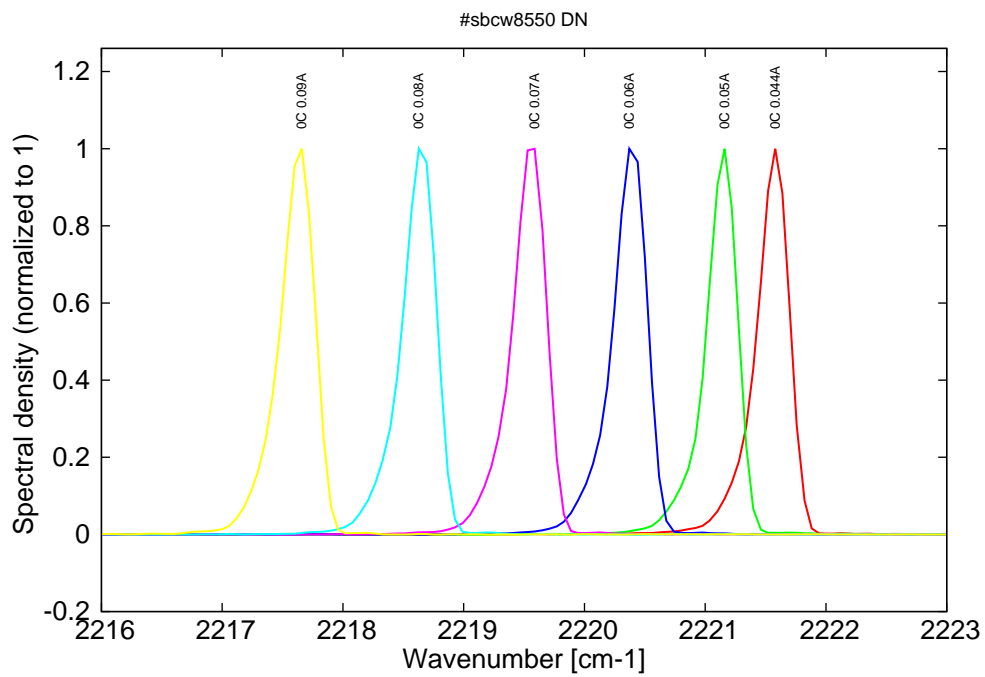


Figure 8: spectra at 0C for various DC currents (monomode on mode 1 up to 44mA, then monomode on mode 2, see kink in LIV)

Figure 8: spectra between 10C and 50C for various DC currents (all monomode on mode 2)

