

Datasheet for #sbcw1483 UP

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.

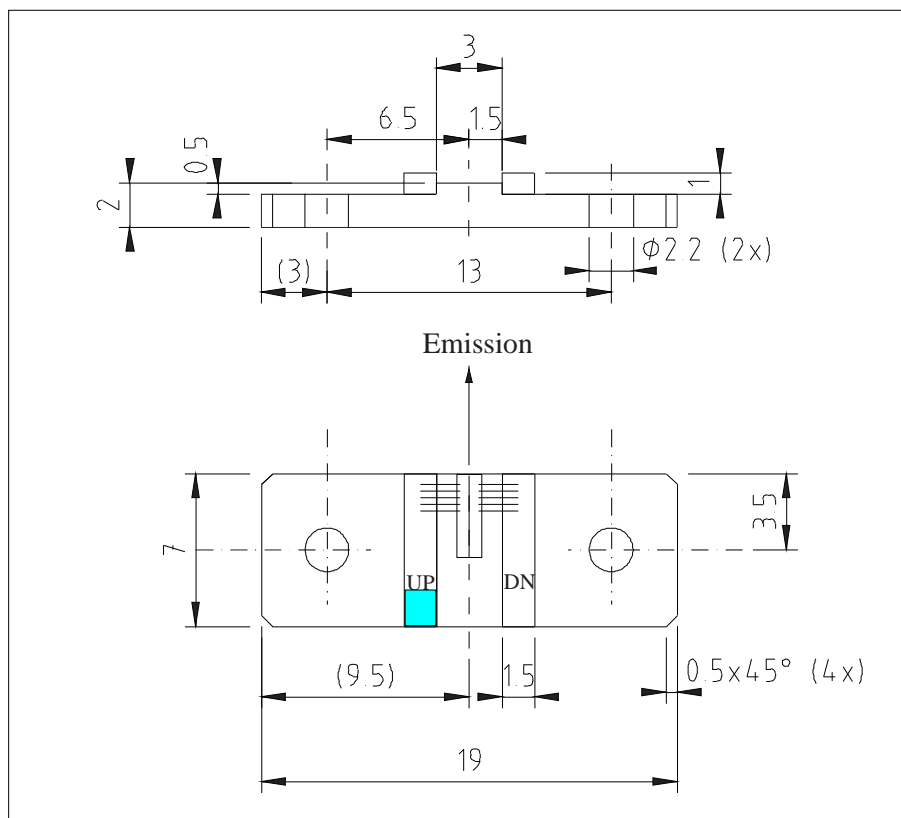


Figure 1: Support mounting for #sbcw1483 UP (please note that the laser is connected to the UP pad drawn in blue)

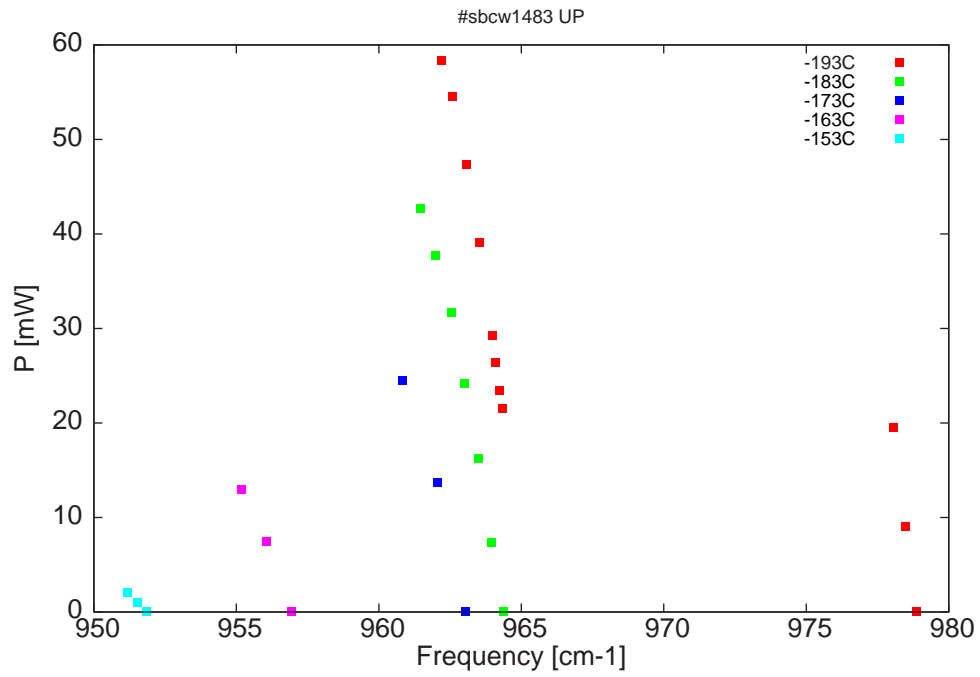


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

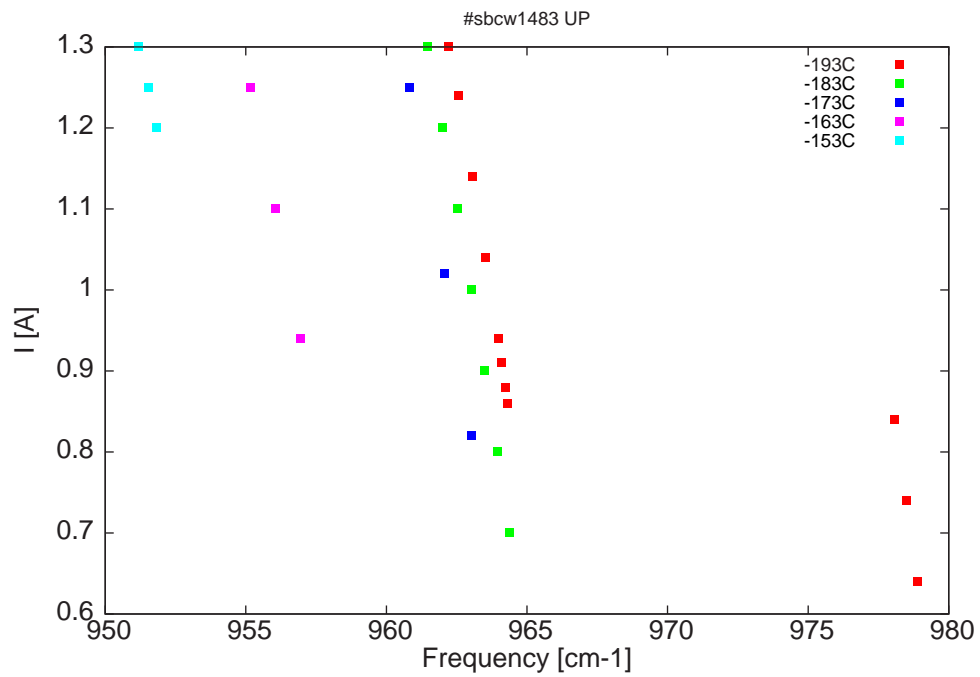


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
10215.8	978.9	0.1	-193	7.6	0.64
10219.8	978.5	9	-193	7.7	0.74
10224.2	978.1	19.5	-193	7.9	0.84
10370	964.3	21.6	-193	7.9	0.86
10370.9	964.2	23.5	-193	7.9	0.88
10372.3	964.1	26.4	-193	8	0.91
10373.7	964	29.3	-193	8	0.94
10378.4	963.5	39.1	-193	8.1	1.04
10383.4	963.1	47.3	-193	8.2	1.14
10388.8	962.6	54.6	-193	8.4	1.24
10392.8	962.2	58.3	-193	8.4	1.3
10369.4	964.4	0.1	-183	7.5	0.7
10374.1	963.9	7.3	-183	7.7	0.8
10379	963.5	16.2	-183	7.8	0.9
10384	963	24.2	-183	7.9	1
10389.2	962.5	31.7	-183	8.1	1.1
10395	962	37.7	-183	8.2	1.2
10401	961.4	42.7	-183	8.3	1.3
10383.8	963	0.1	-173	7.5	0.82
10394.4	962.1	13.7	-173	7.8	1.02
10407.7	960.8	24.5	-173	8	1.25
10449.9	956.9	0.1	-163	7.5	0.94
10459.5	956.1	7.4	-163	7.7	1.1
10469.3	955.2	12.9	-163	7.9	1.25
10506.1	951.8	0.1	-153	7.7	1.2
10509.5	951.5	1.1	-153	7.8	1.25
10513.1	951.2	2.1	-153	7.9	1.3

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

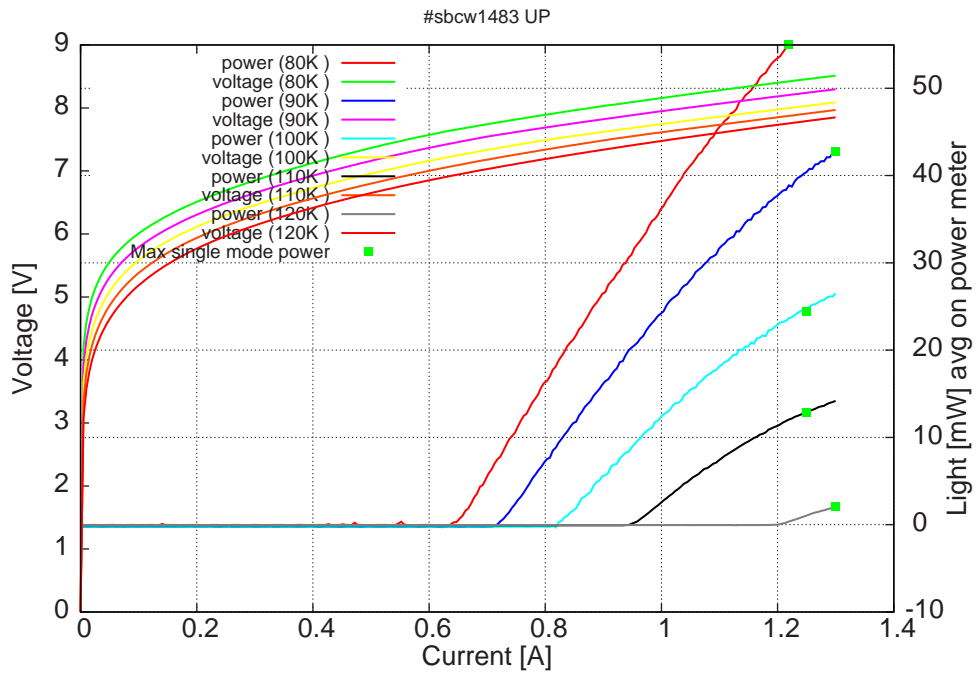
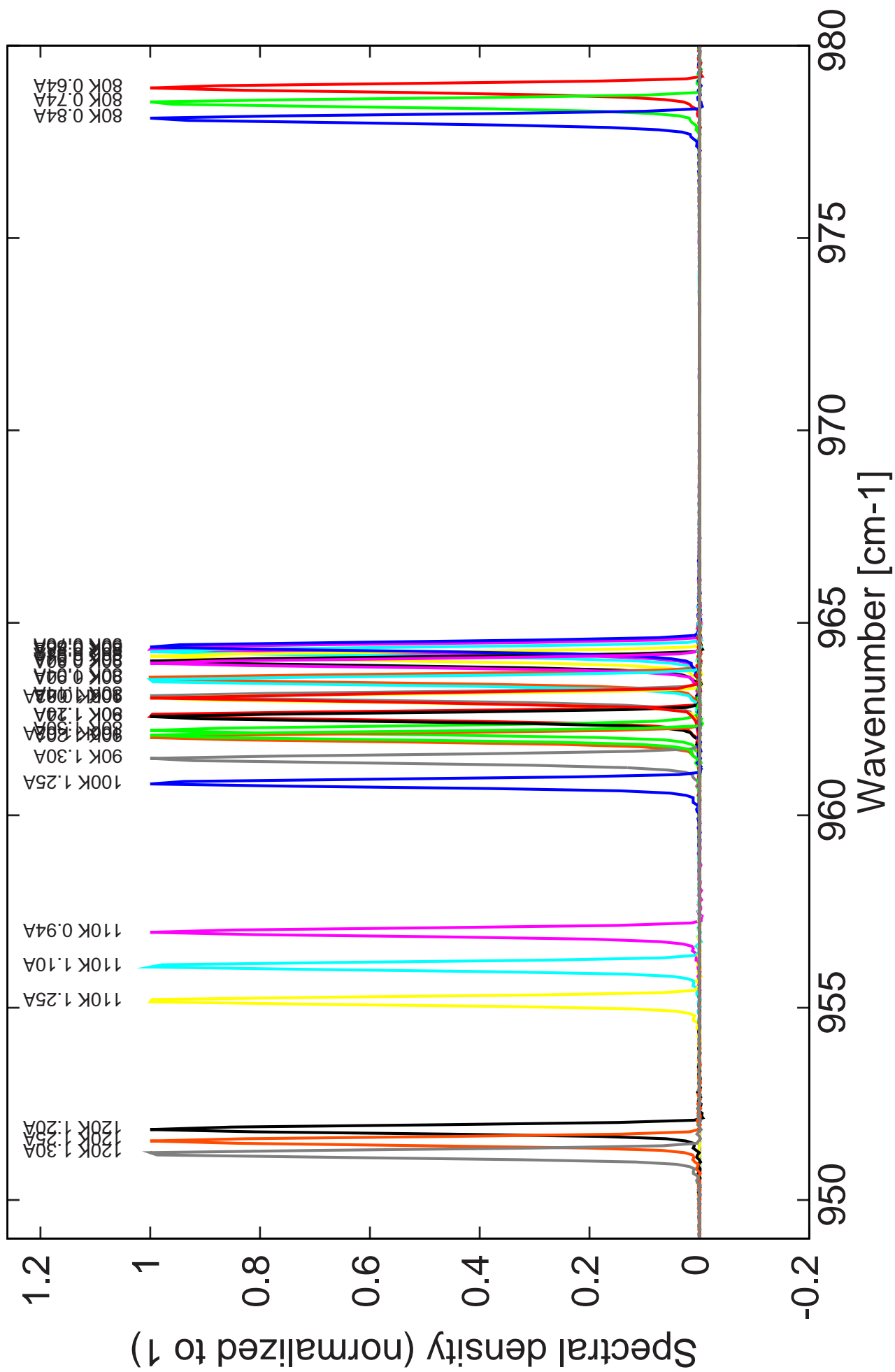


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at 80K: $I_{th}=640\text{mA}$ / $V_{th}= 7.64\text{V}$ (2-wires measurements). Maximum operation current: 1.30A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



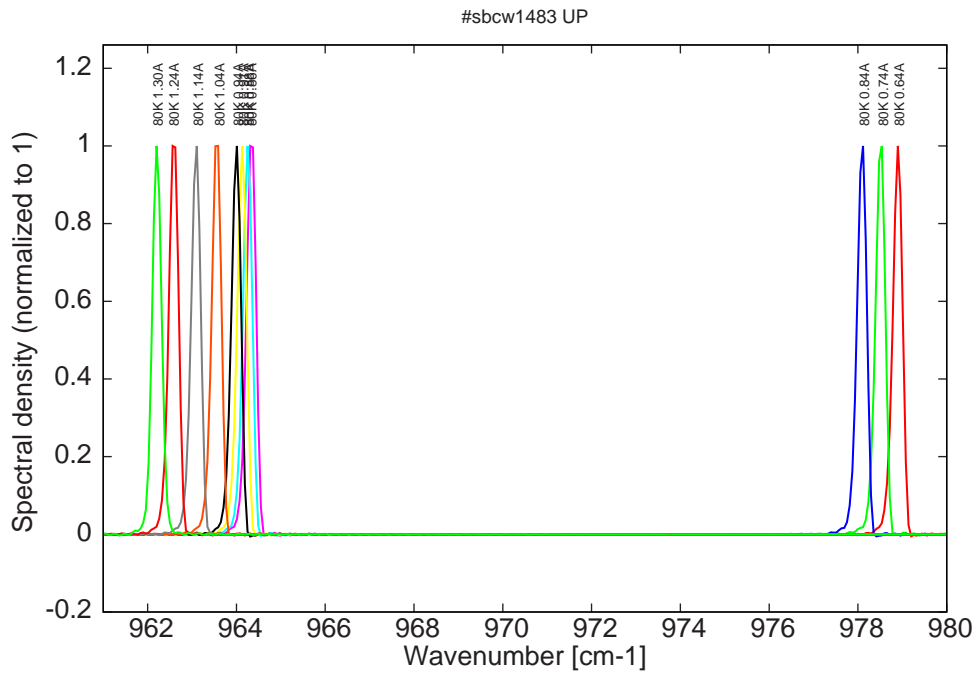


Figure 5: spectra at 80K for various DC currents (mode jumping for $I > 0.84A$)

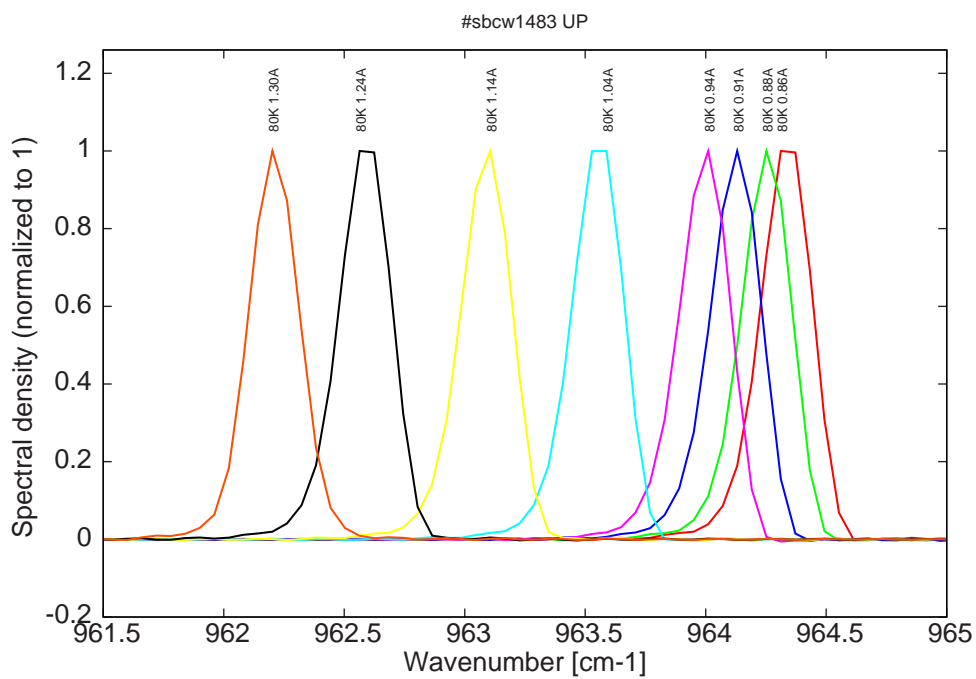


Figure 6: spectra at 80K for various DC currents (monomode around 962-964cm-1)

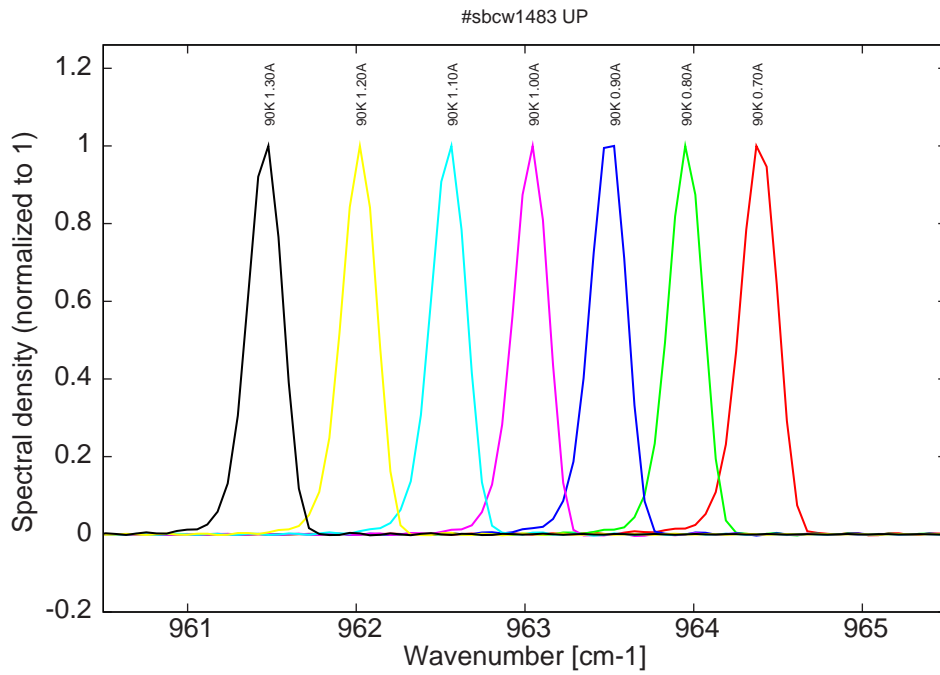


Figure 7: spectra at 90K for various DC currents (monomode around 962-964cm-1, same mode as at 80K, see Fig. 1)

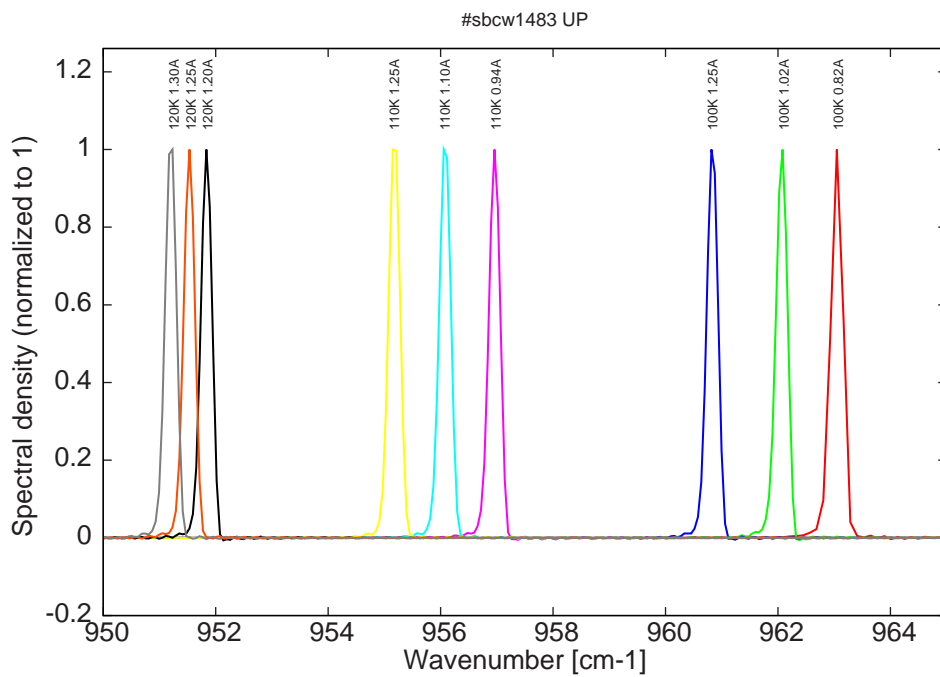


Figure 8: spectra at 100K, 110K and 120K for various DC currents (all monomode but with mode jumping compared to spectra at 80K and 90K, see Fig. 1)