

Datasheet for #sbcw1907 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/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.

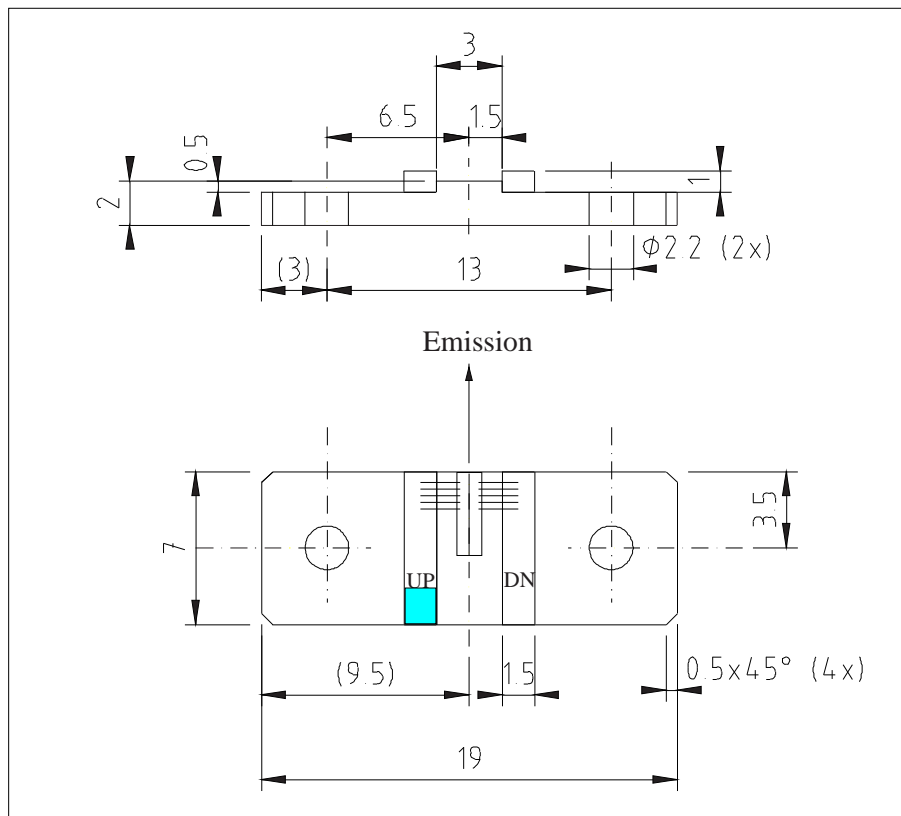


Figure 1: Support mounting for #sbcw1907 UP (please note that the laser is connected to the UP pad drawn in blue)

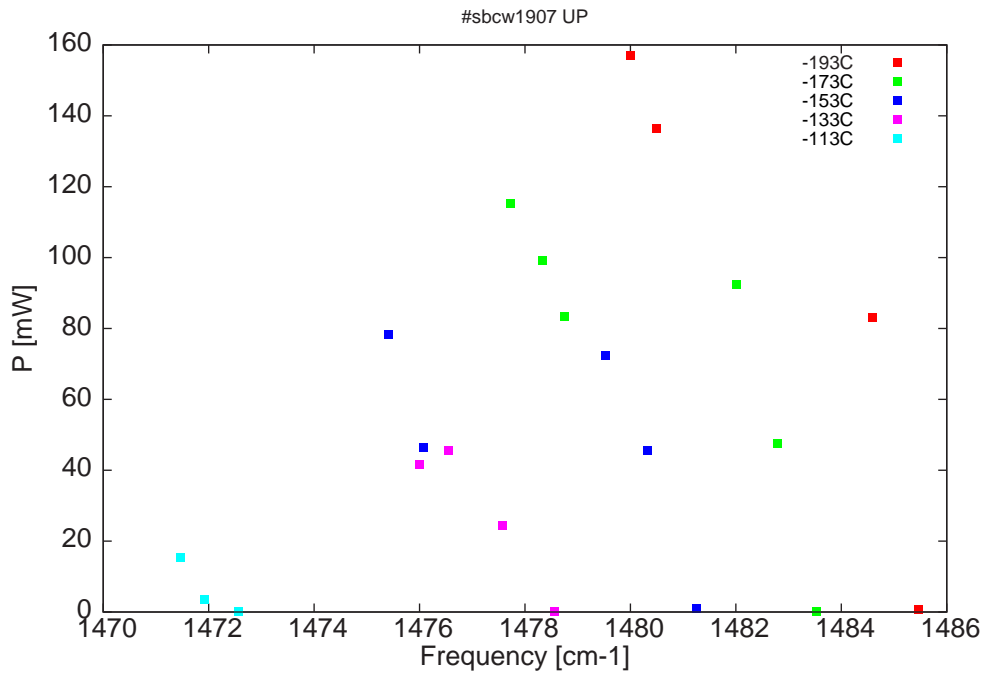


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

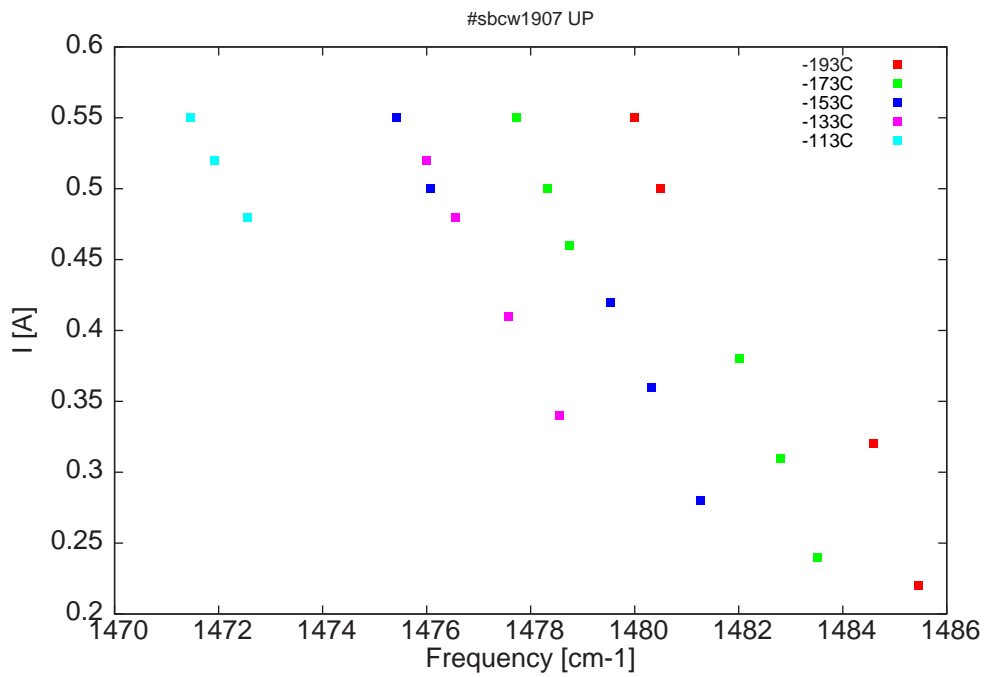


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
6731.9	1485.5	0.8	-193	9.9	0.22
6735.9	1484.6	83.1	-193	10.1	0.32
6754.5	1480.5	136.4	-193	10.4	0.5
6756.8	1480	157.1	-193	10.5	0.55
6740.7	1483.5	0.3	-173	9.6	0.24
6744	1482.8	47.5	-173	9.8	0.31
6747.5	1482	92.3	-173	9.9	0.38
6762.4	1478.8	83.5	-173	10.1	0.46
6764.4	1478.3	99.2	-173	10.1	0.5
6767.1	1477.7	115.2	-173	10.2	0.55
6751	1481.3	1	-153	9.4	0.28
6755.3	1480.3	45.6	-153	9.6	0.36
6758.9	1479.5	72.4	-153	9.7	0.42
6774.7	1476.1	46.3	-153	9.8	0.5
6777.7	1475.4	78.2	-153	9.9	0.55
6763.3	1478.6	0.1	-133	9.2	0.34
6767.9	1477.6	24.3	-133	9.4	0.41
6772.5	1476.6	45.7	-133	9.5	0.48
6775.1	1476	41.8	-133	9.6	0.52
6790.9	1472.6	0.1	-113	9.2	0.48
6793.9	1471.9	3.6	-113	9.3	0.52
6795.9	1471.5	15.5	-113	9.3	0.55

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

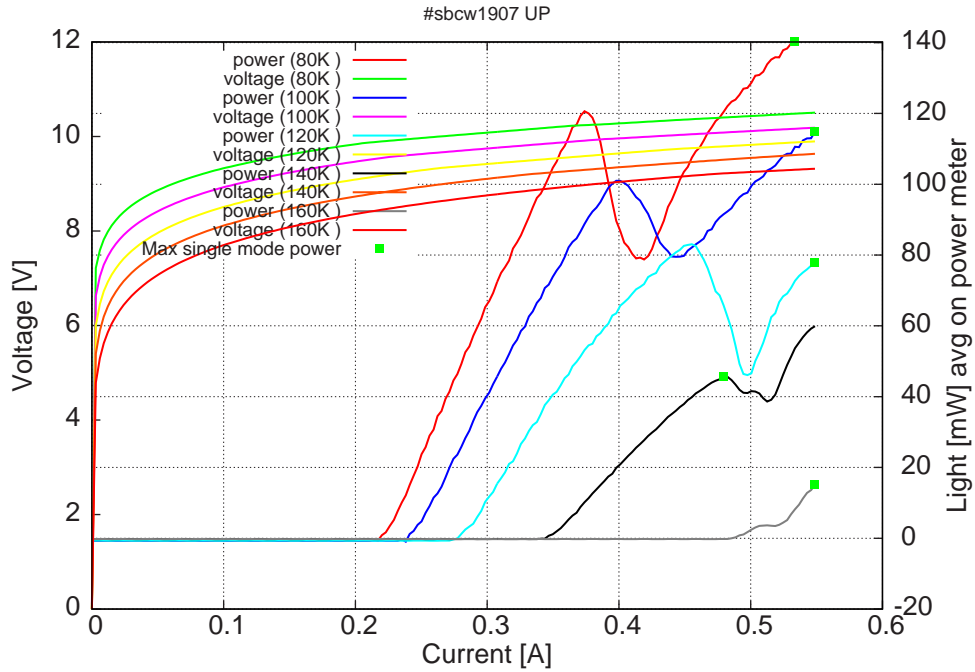


Figure 4: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

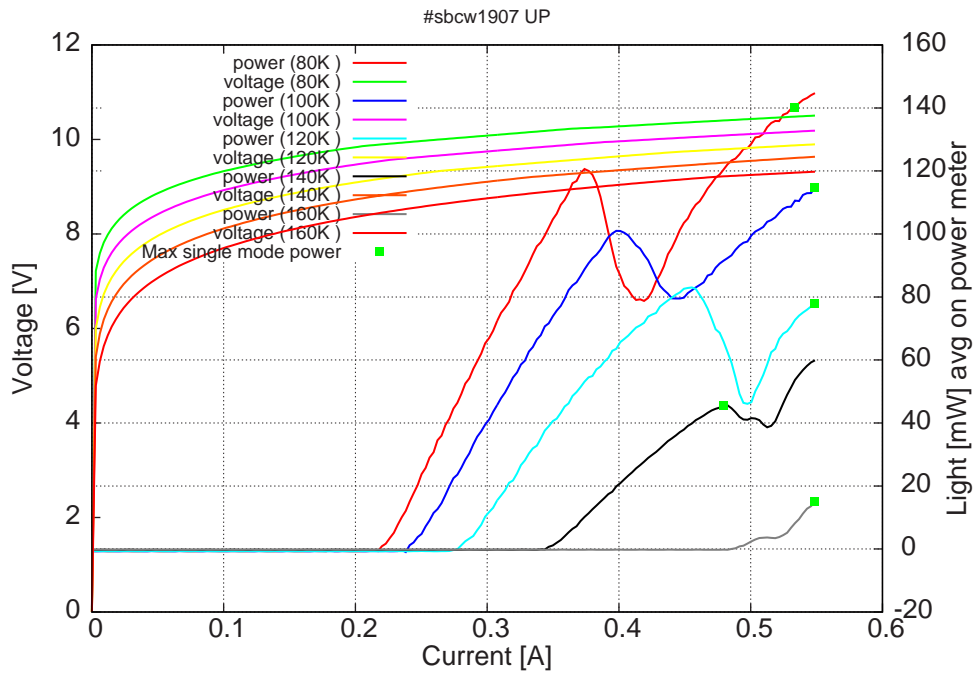
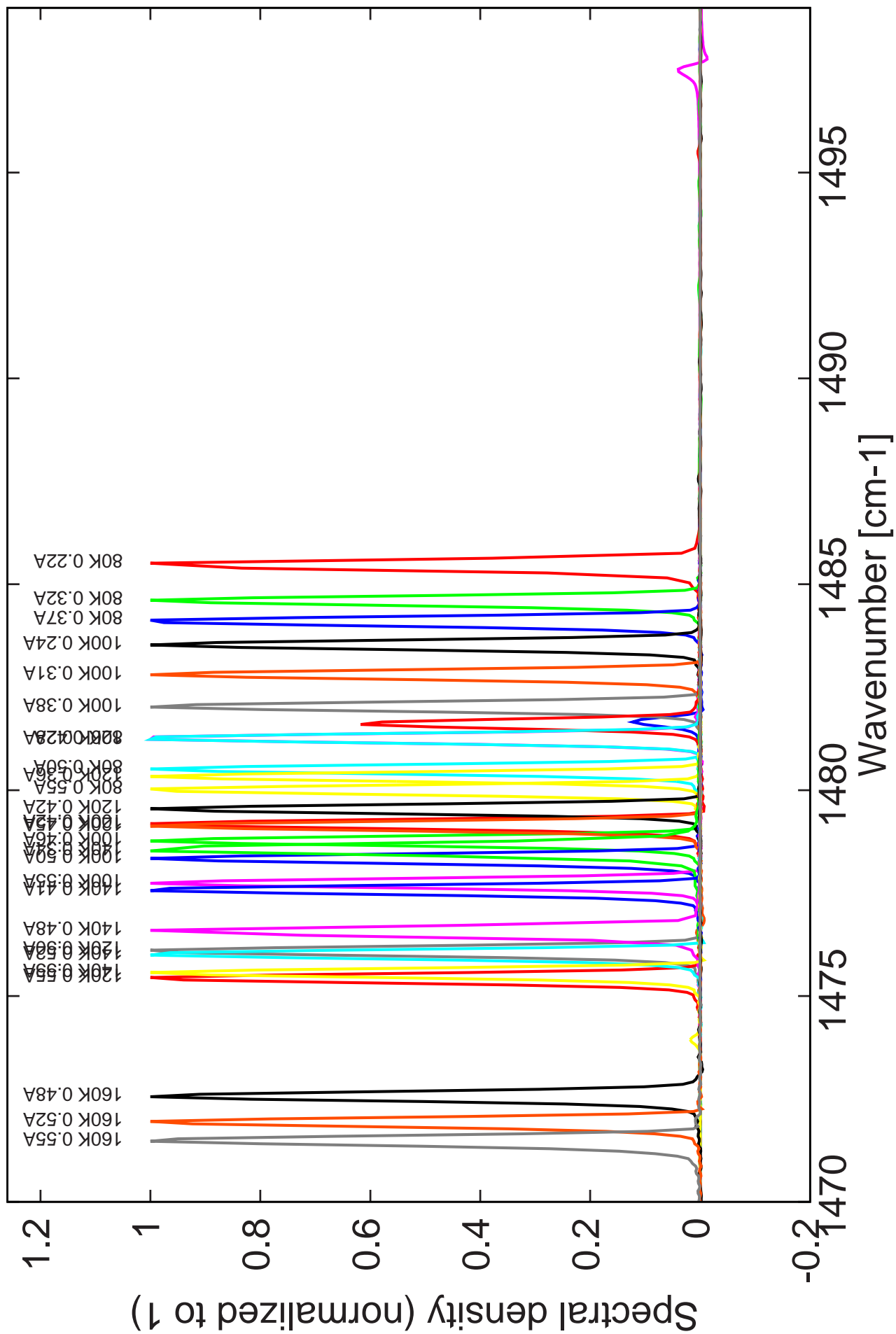


Figure 5: peak voltage and average power vs peak current in continuous-wave operation (including the multimode region)

Note: at 80K: $I_{th}=220\text{mA}$ / $V_{th}= 9.9\text{V}$ (2-wires measurements). Maximum operation current: 550mA for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



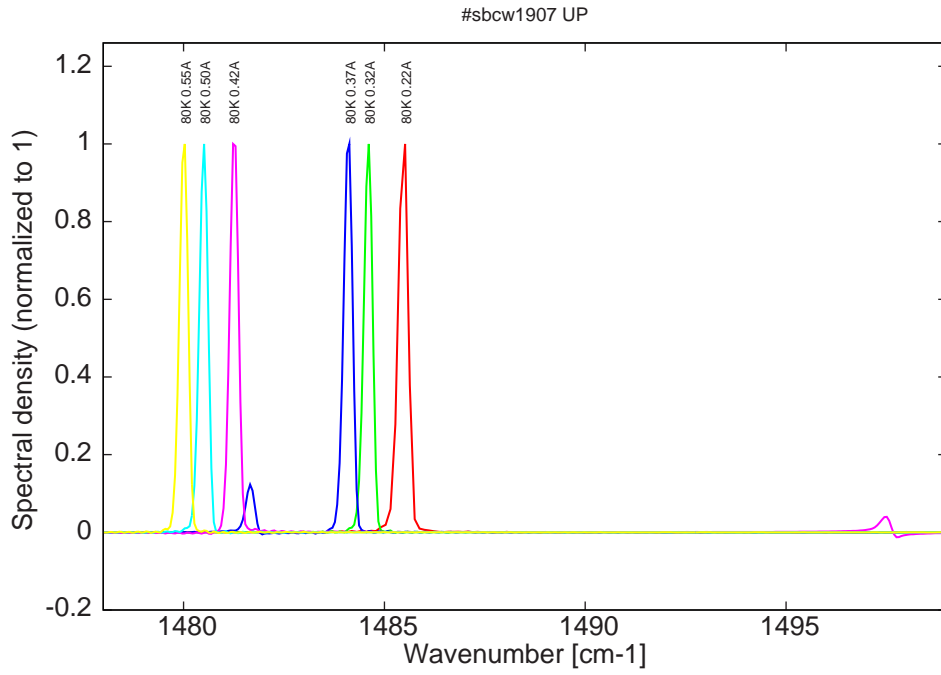


Figure 6: spectra at 80K for various DC currents (monomode up to 0.32A, then bimode and again monomode from 0.50A to 0.55A but on another mode, see Fig.1)

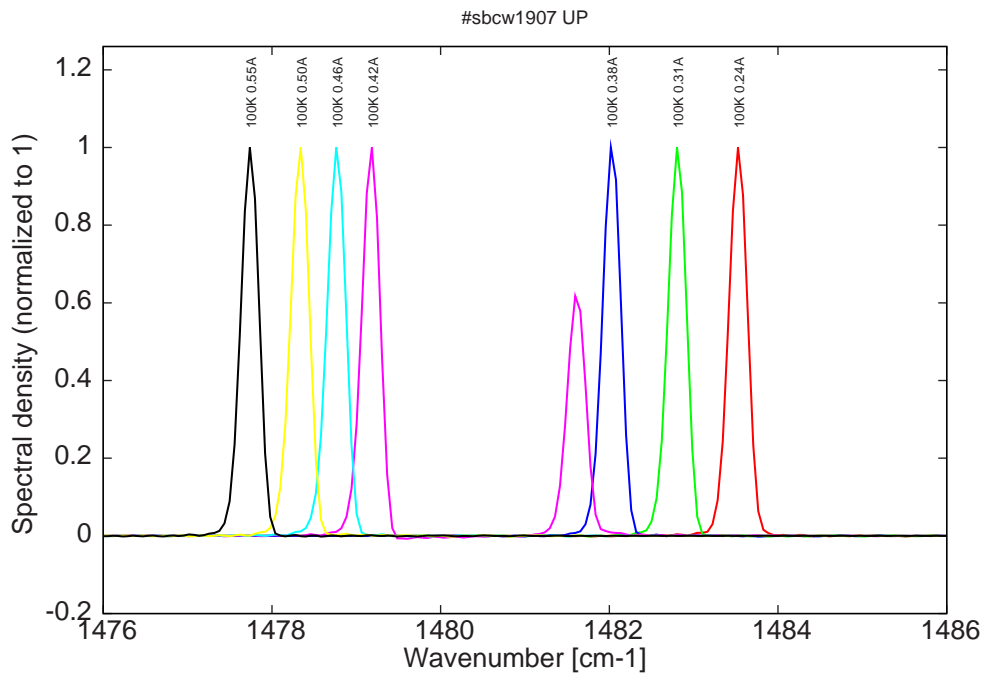


Figure 7: spectra at 100K for various DC currents (monomode up to 0.38A, then bimode and again monomode from 0.46A to 0.55A but on another mode, see Fig.1)

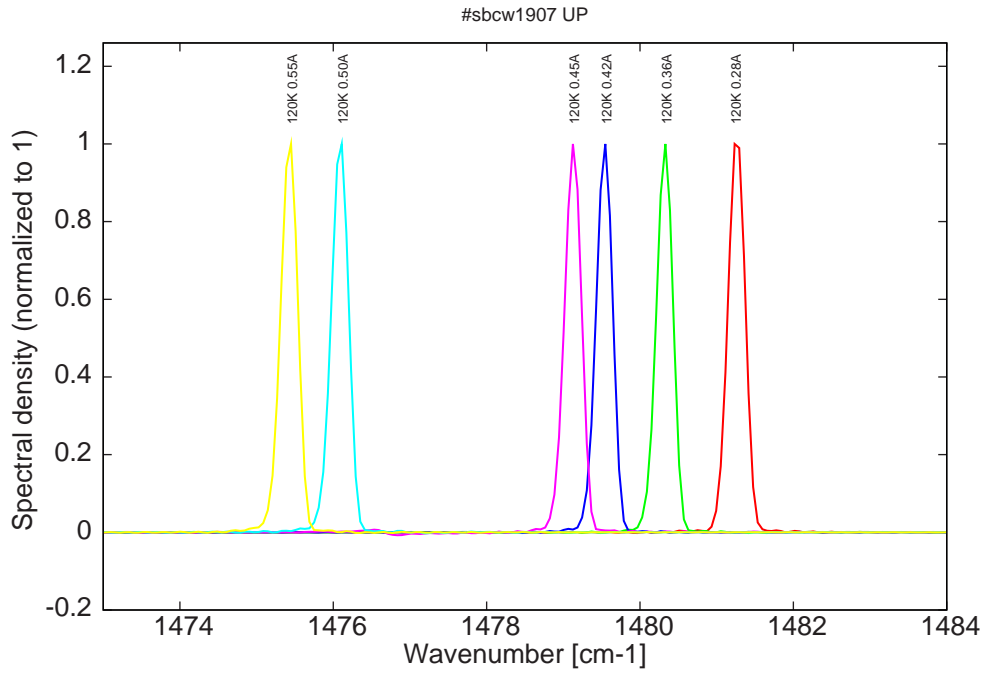


Figure 8: spectra at 120K for various DC currents (monomode up to 0.42A, then bimode and again monomode from 0.50A to 0.55A but on another mode, see Fig.1)

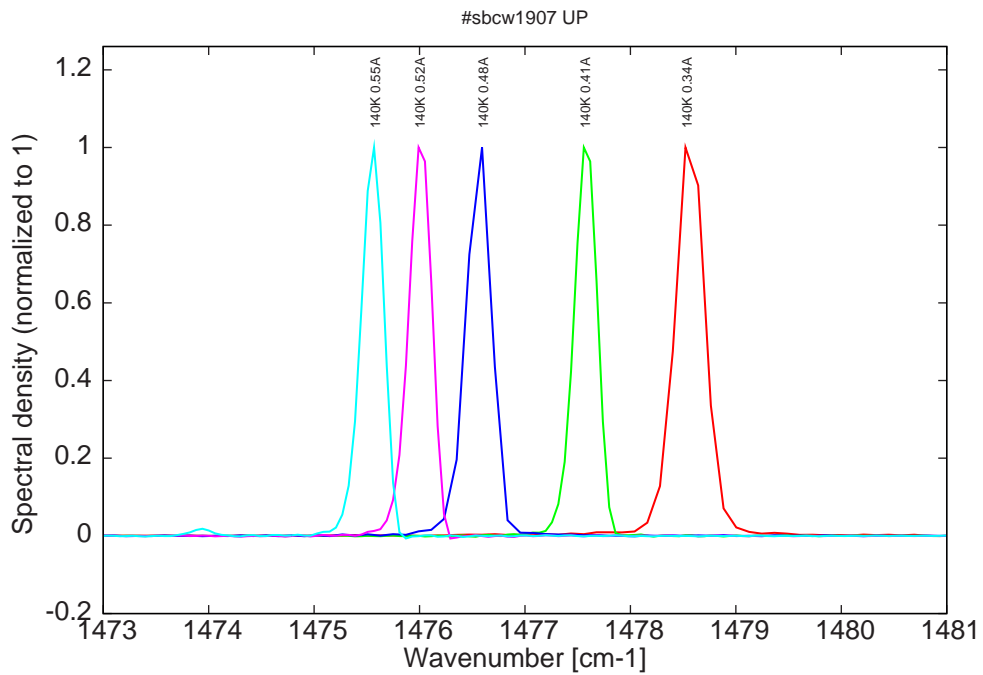


Figure 9: spectra at 140K for various DC currents (monomode up to 0.52A, then bimode, see Fig.1)

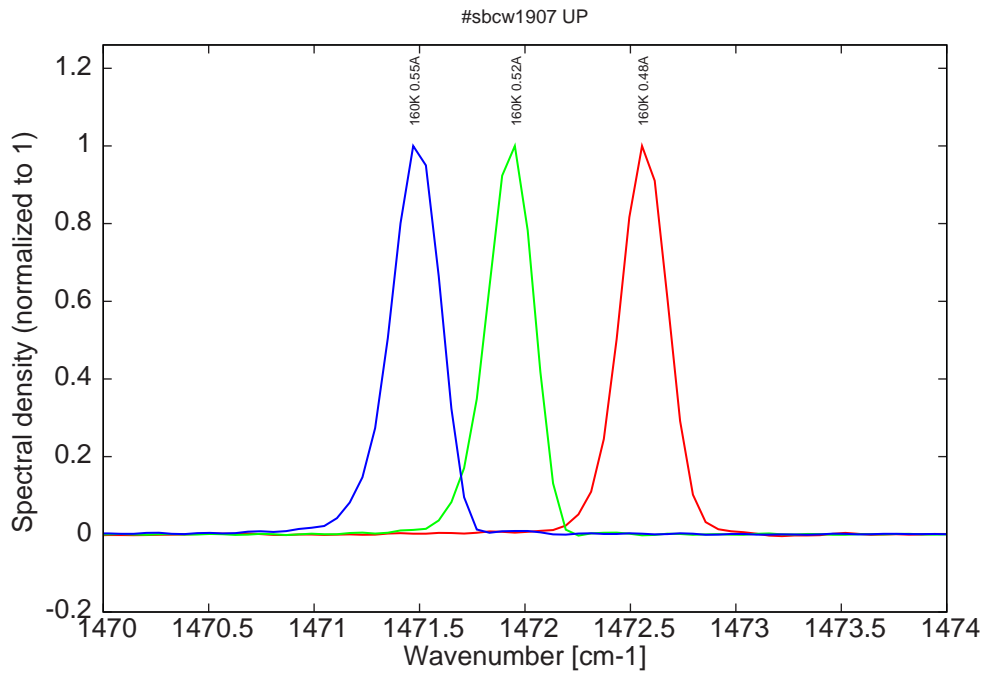


Figure 10: spectra at 160K for various DC currents (all monomode but on another mode, see Fig.1)