

Datasheet for #sbcw13741 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 be used with a high compliance CW laser driver capable of reaching the operating current and voltage indicated in this datasheet, or up to 2.5A/20V.



Figure 1: Mechanical and electrical interface for #sbcw13741 DN

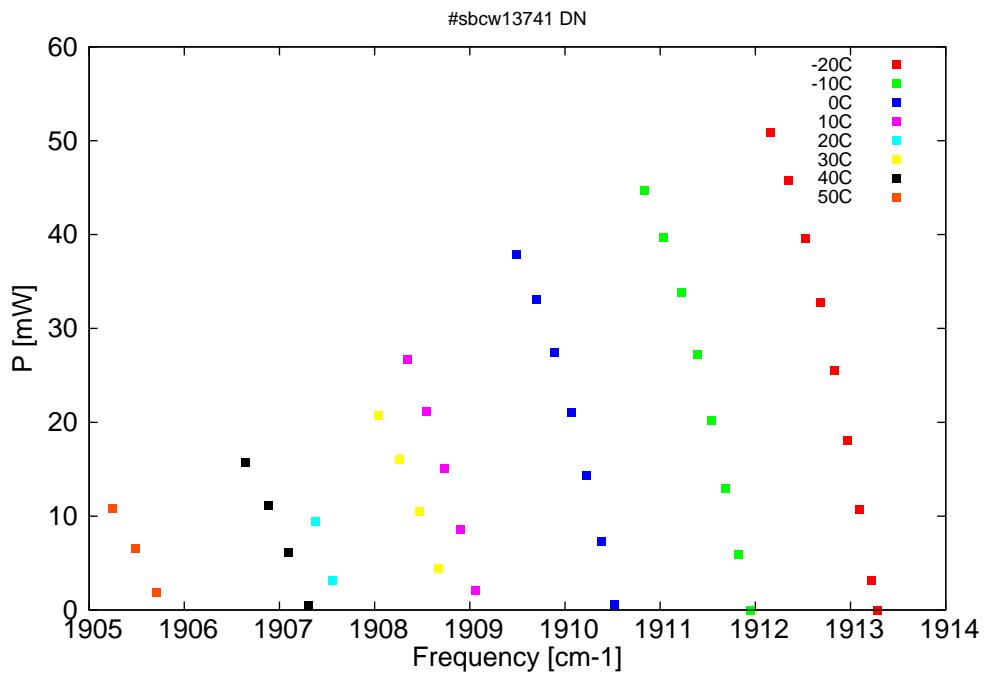


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

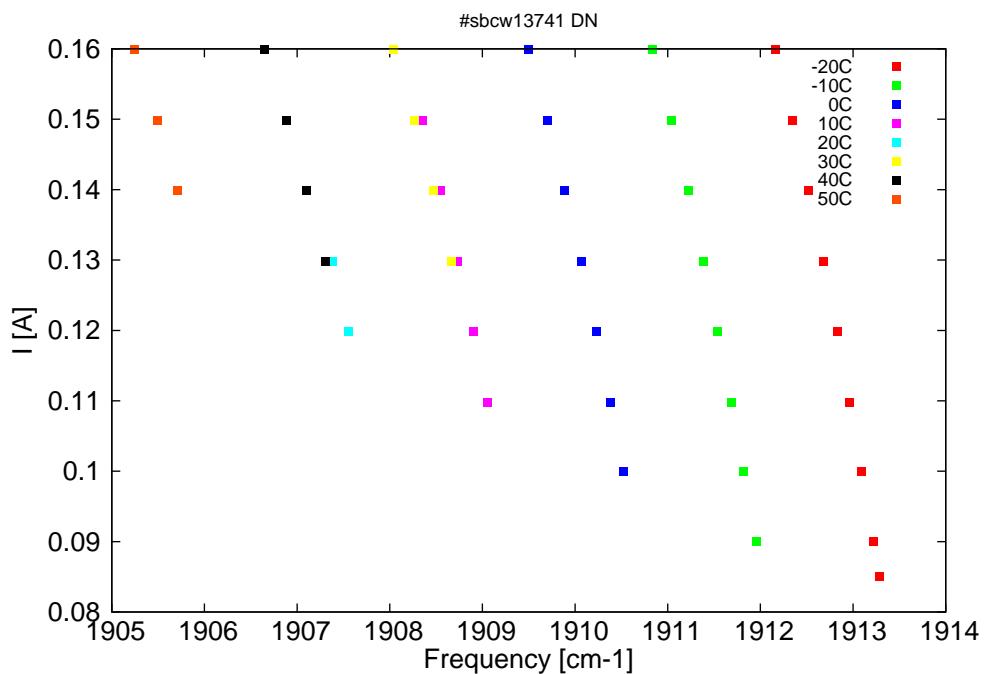


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm $^{-1}$]	P[mW]	Temp[°C]	U $_{LASER}$ [V]	I[A]
5226.6	1913.3	0	-20	7.7	0.08
5226.8	1913.2	3.2	-20	7.7	0.09
5227.1	1913.1	10.7	-20	7.8	0.1
5227.5	1913	18.1	-20	8	0.11
5227.9	1912.8	25.5	-20	8.1	0.12
5228.3	1912.7	32.8	-20	8.2	0.13
5228.7	1912.5	39.6	-20	8.4	0.14
5229.2	1912.3	45.7	-20	8.5	0.15
5229.7	1912.2	50.9	-20	8.7	0.16
5230.3	1912	0	-10	7.7	0.09
5230.6	1911.8	5.9	-10	7.8	0.1
5231	1911.7	12.9	-10	7.9	0.11
5231.4	1911.5	20.2	-10	8.1	0.12
5231.8	1911.4	27.2	-10	8.2	0.13
5232.3	1911.2	33.8	-10	8.4	0.14
5232.8	1911	39.7	-10	8.5	0.15
5233.3	1910.8	44.7	-10	8.7	0.16
5234.2	1910.5	0.6	0	7.8	0.1
5234.6	1910.4	7.3	0	7.9	0.11
5235	1910.2	14.3	0	8.1	0.12
5235.4	1910.1	21	0	8.2	0.13
5235.9	1909.9	27.4	0	8.3	0.14
5236.4	1909.7	33.1	0	8.5	0.15
5237	1909.5	37.9	0	8.7	0.16
5238.2	1909.1	2.1	10	7.9	0.11
5238.6	1908.9	8.6	10	8	0.12
5239.1	1908.7	15.1	10	8.2	0.13
5239.6	1908.5	21.1	10	8.3	0.14
5240.1	1908.3	26.7	10	8.5	0.15
5242.3	1907.6	3.2	20	8	0.12
5242.8	1907.4	9.4	20	8.2	0.13
5239.3	1908.7	4.5	30	8.2	0.13
5239.8	1908.5	10.5	30	8.3	0.14
5240.4	1908.3	16	30	8.5	0.15
5241	1908	20.7	30	8.6	0.16
5243	1907.3	0.5	40	8.1	0.13
5243.6	1907.1	6.1	40	8.3	0.14
5244.2	1906.9	11.1	40	8.5	0.15
5244.8	1906.6	15.7	40	8.6	0.16
5247.4	1905.7	1.8	50	8.3	0.14
5248	1905.5	6.6	50	8.4	0.15
5248.7	1905.2	10.8	50	8.6	0.16

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

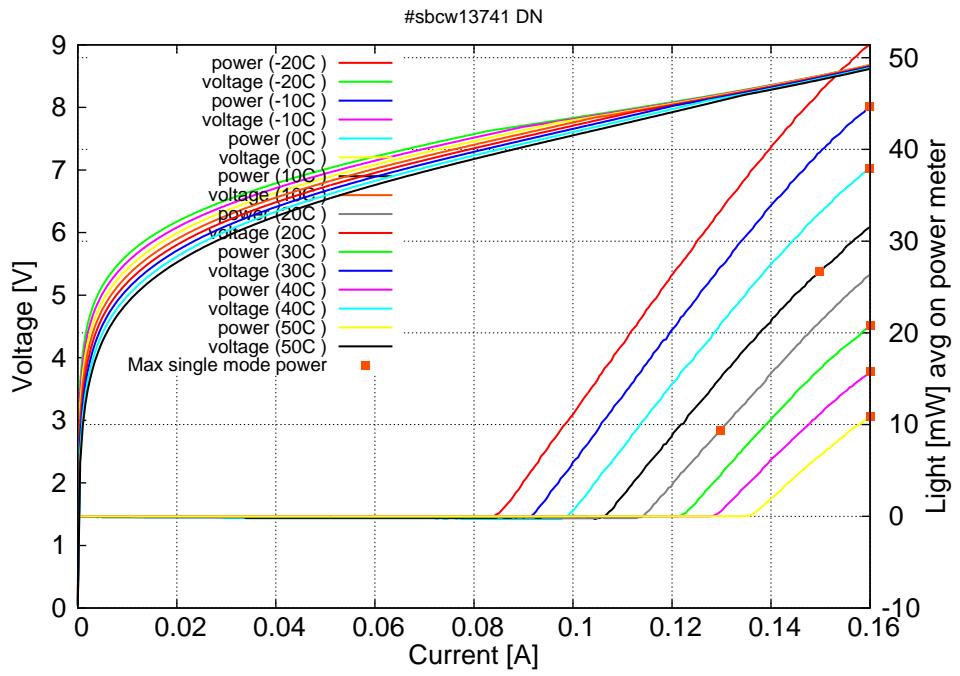


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

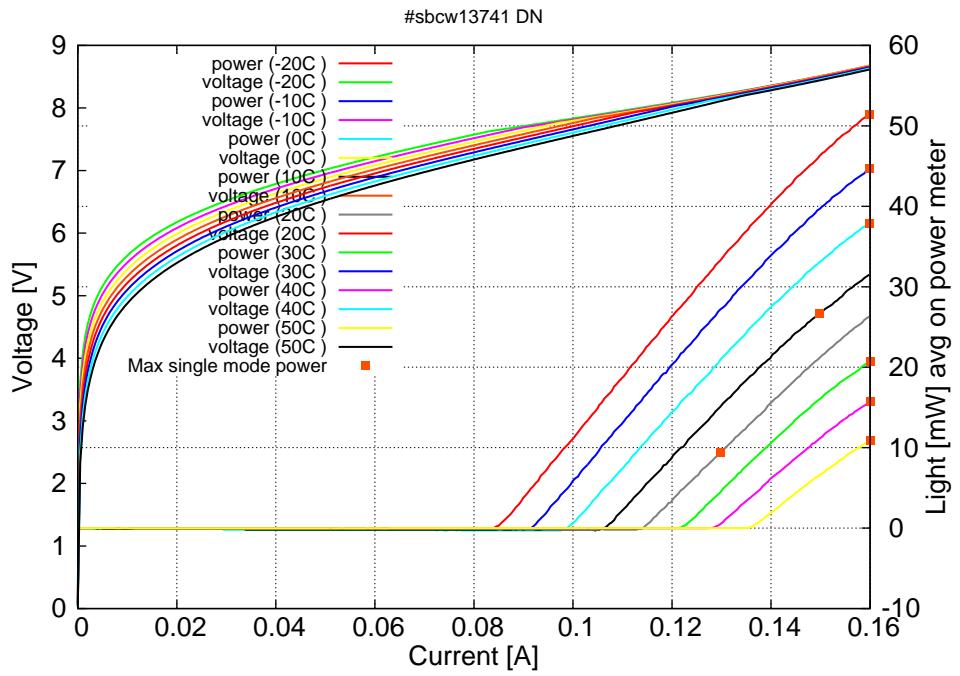
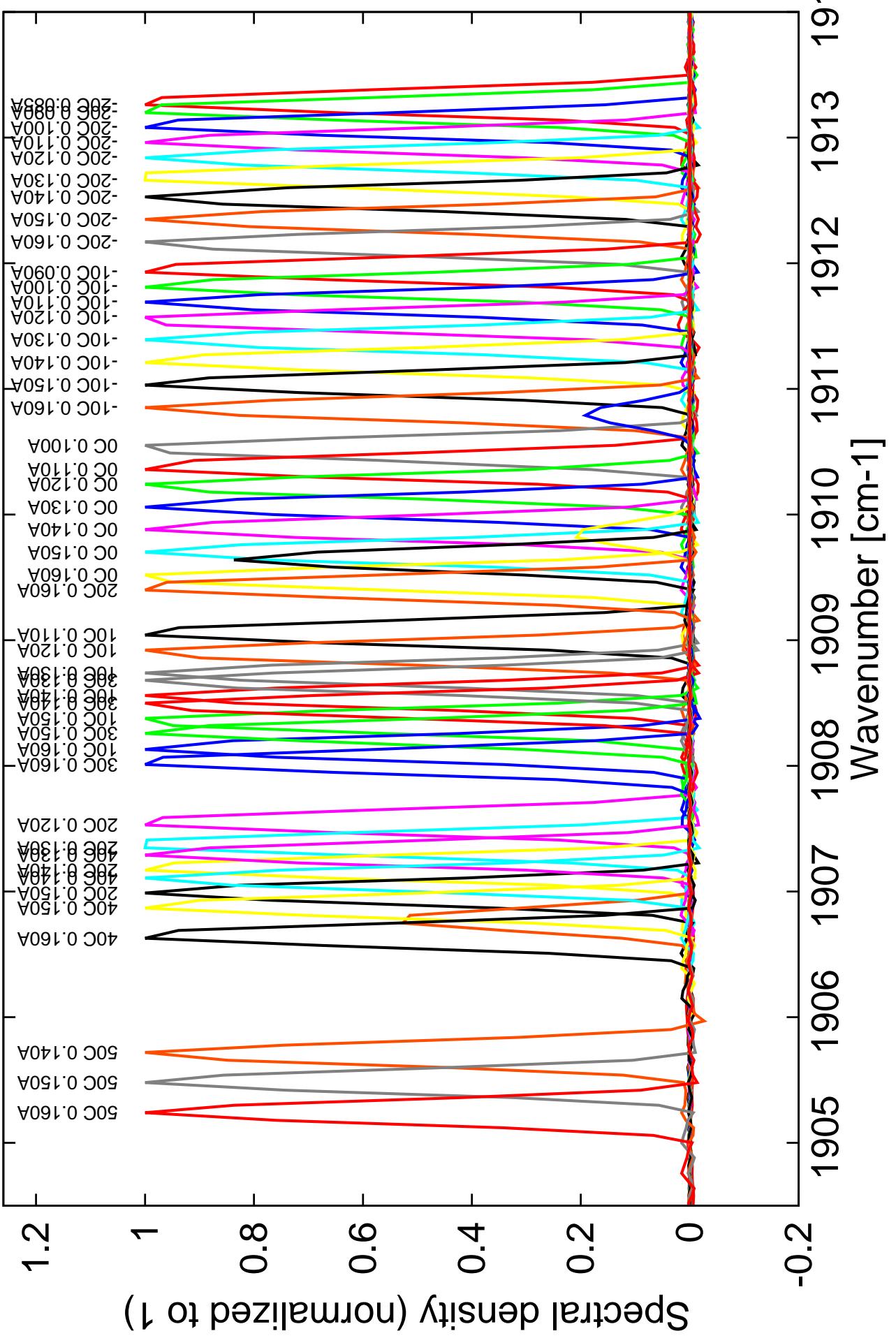


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C: $I_{th}=0.08A$ / $V_{th}=7.6V$ (2-wires measurements). Maximum operation current: 0.16A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



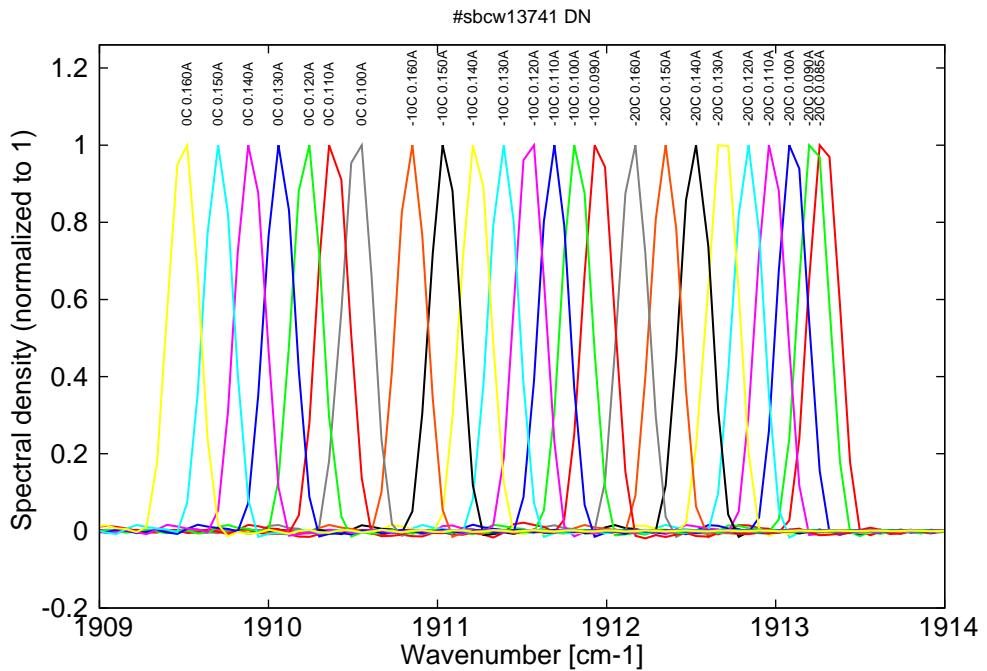


Figure 6: spectra between -20C and 0C (all monomode up to 0.16A on mode 1)

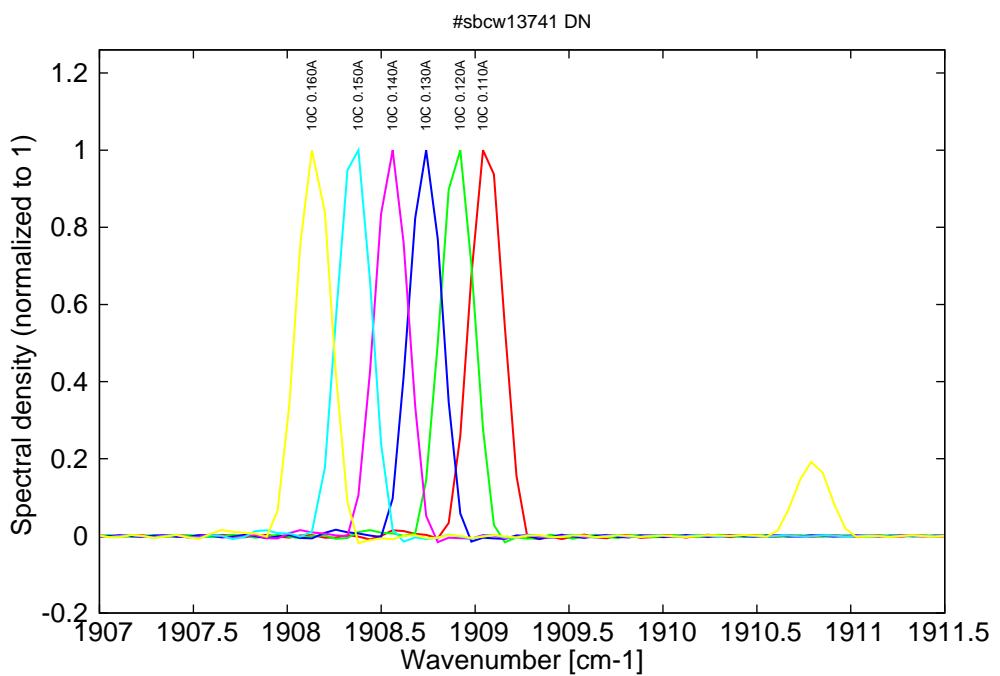


Figure 7: spectra at 10C (monomode up to 0.15A on mode 1, then bimode)

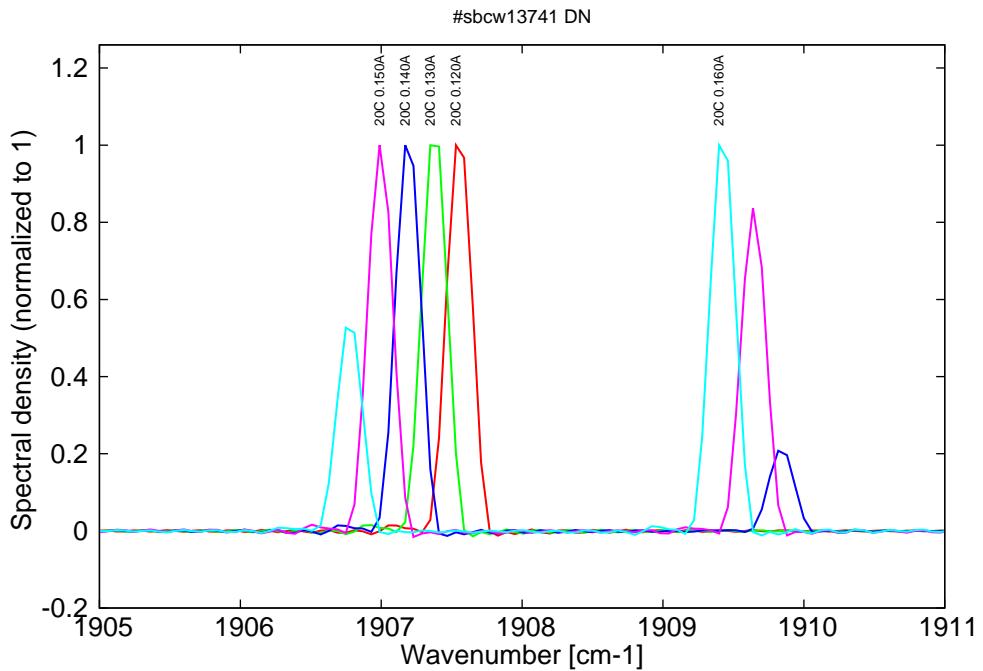


Figure 8: spectra at 20C (monomode up to 0.13A on mode 1, then bimode)

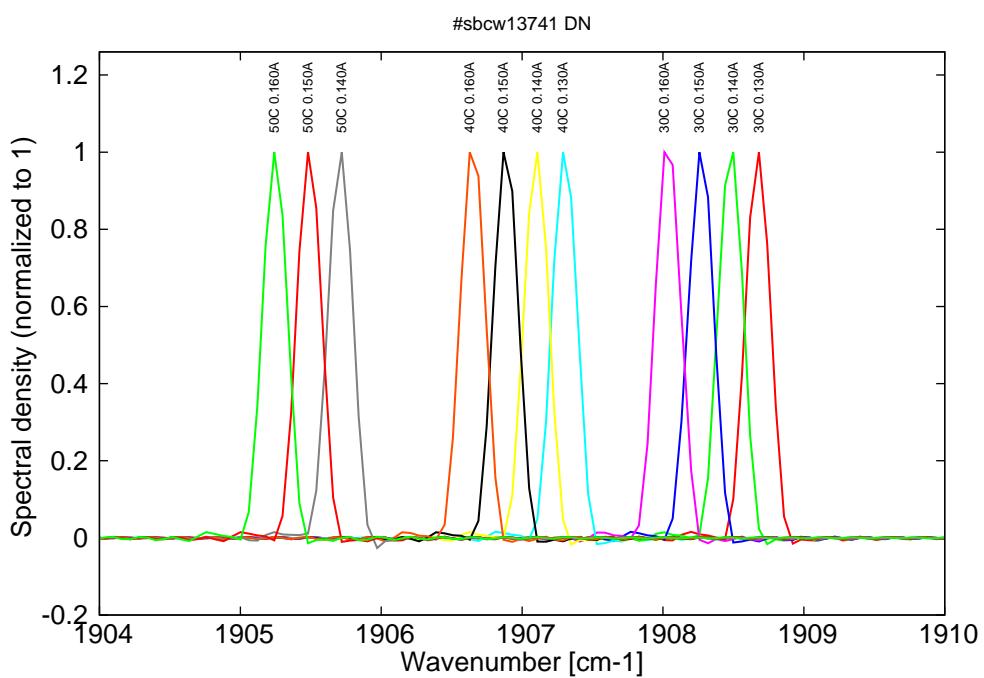


Figure 9: spectra between 30C and 50C (all monomode on mode 2)