

## Datasheet for #sbcw13774 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 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.

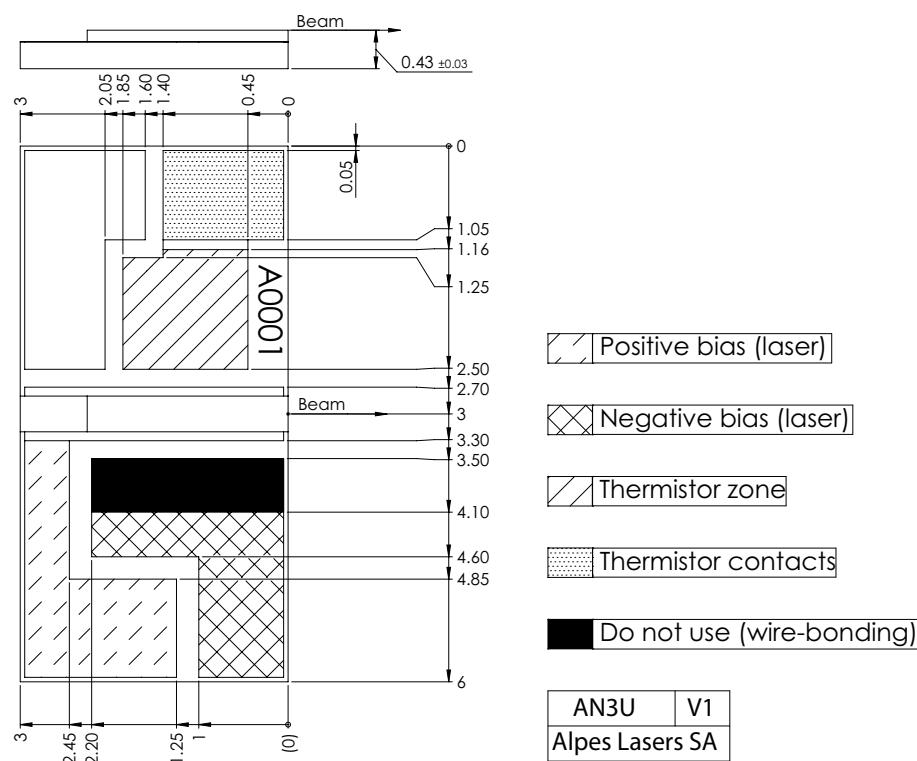


Figure 1: Mechanical and electrical interface for #sbcw13774 DN (please note that AlN submount numbering is A0J50)

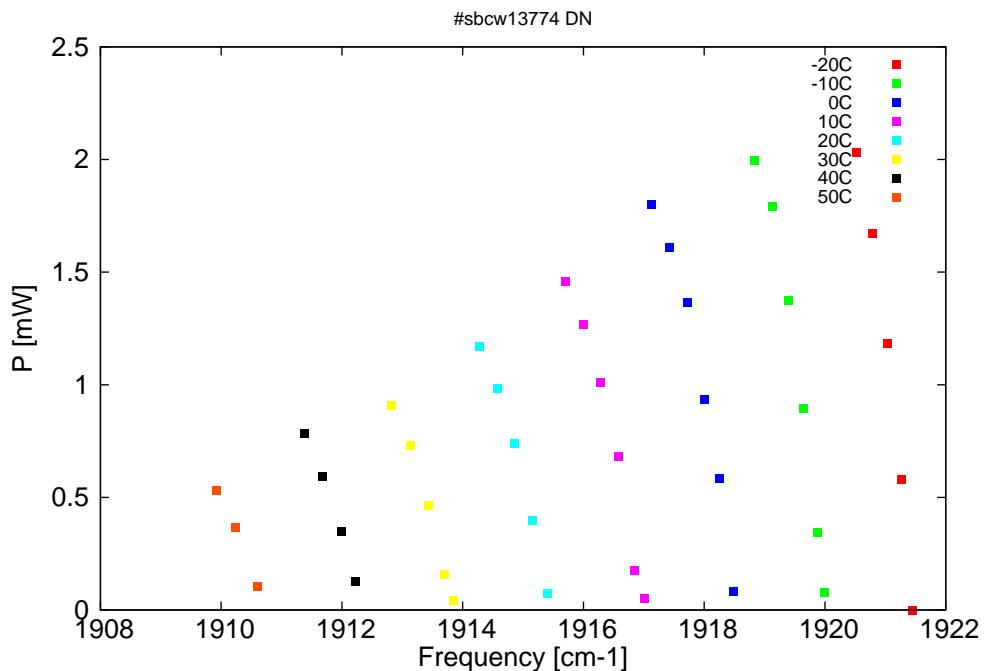


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

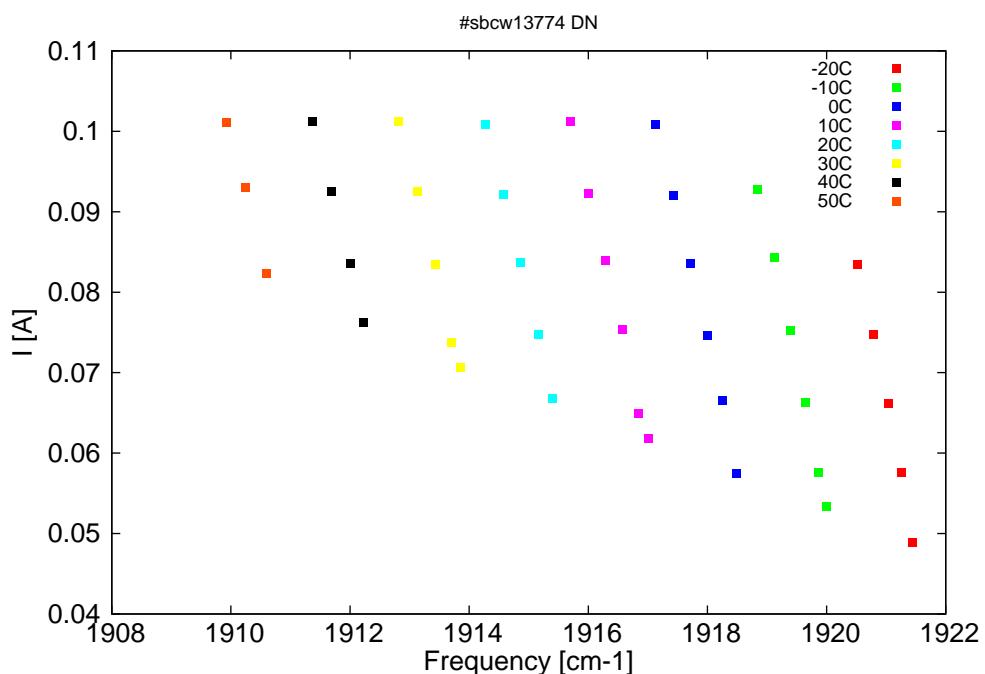


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm $^{-1}$ ]	P[mW]	Temp[°C]	U $_{LASER}$ [V]	I[A]
5204.4	1921.4	0	-20	7.6	0.05
5204.9	1921.3	0.6	-20	7.9	0.06
5205.5	1921	1.2	-20	8.1	0.07
5206.2	1920.8	1.7	-20	8.3	0.07
5206.9	1920.5	2	-20	8.5	0.08
5208.3	1920	0.1	-10	7.7	0.05
5208.7	1919.9	0.3	-10	7.8	0.06
5209.3	1919.6	0.9	-10	8	0.07
5210	1919.4	1.4	-10	8.3	0.08
5210.7	1919.1	1.8	-10	8.5	0.08
5211.5	1918.8	2	-10	8.7	0.09
5212.5	1918.5	0.1	0	7.8	0.06
5213.1	1918.2	0.6	0	8	0.07
5213.7	1918	0.9	0	8.2	0.07
5214.5	1917.7	1.4	0	8.4	0.08
5215.3	1917.4	1.6	0	8.7	0.09
5216.1	1917.1	1.8	0	9	0.1
5216.4	1917	0.1	10	7.8	0.06
5216.9	1916.8	0.2	10	8	0.06
5217.6	1916.6	0.7	10	8.2	0.08
5218.4	1916.3	1	10	8.4	0.08
5219.2	1916	1.3	10	8.7	0.09
5220	1915.7	1.5	10	8.9	0.1
5220.8	1915.4	0.1	20	7.9	0.07
5221.5	1915.2	0.4	20	8.1	0.07
5222.3	1914.9	0.7	20	8.4	0.08
5223.1	1914.6	1	20	8.6	0.09
5223.9	1914.3	1.2	20	8.9	0.1
5225.1	1913.8	0	30	8	0.07
5225.5	1913.7	0.2	30	8.1	0.07
5226.2	1913.4	0.5	30	8.3	0.08
5227	1913.1	0.7	30	8.6	0.09
5227.9	1912.8	0.9	30	8.9	0.1
5229.5	1912.2	0.1	40	8.1	0.08
5230.1	1912	0.3	40	8.3	0.08
5231	1911.7	0.6	40	8.5	0.09
5231.8	1911.4	0.8	40	8.8	0.1
5234	1910.6	0.1	50	8.2	0.08
5235	1910.2	0.4	50	8.5	0.09
5235.8	1909.9	0.5	50	8.7	0.1

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

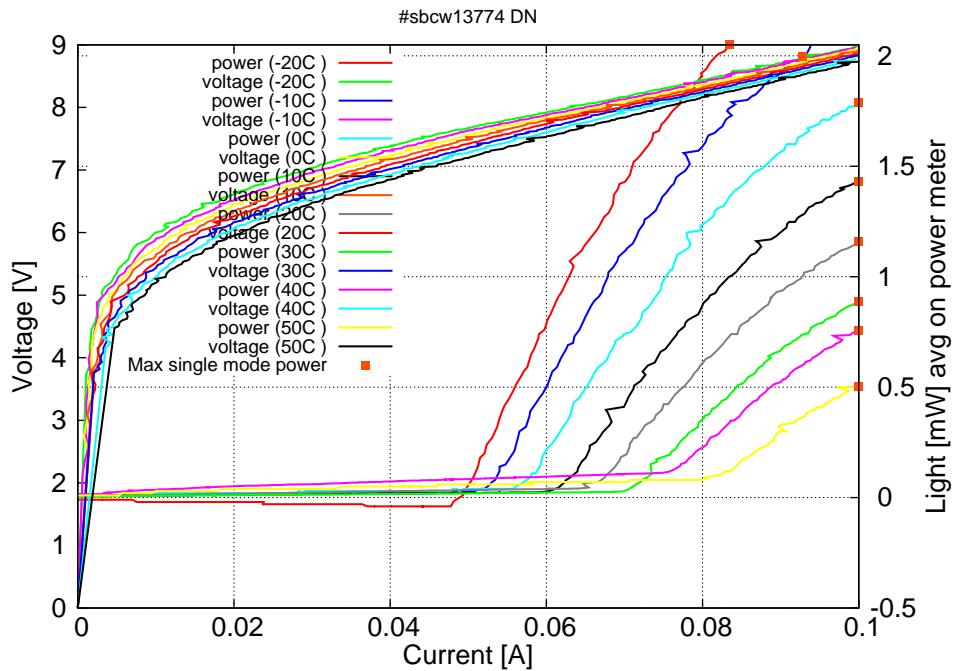


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

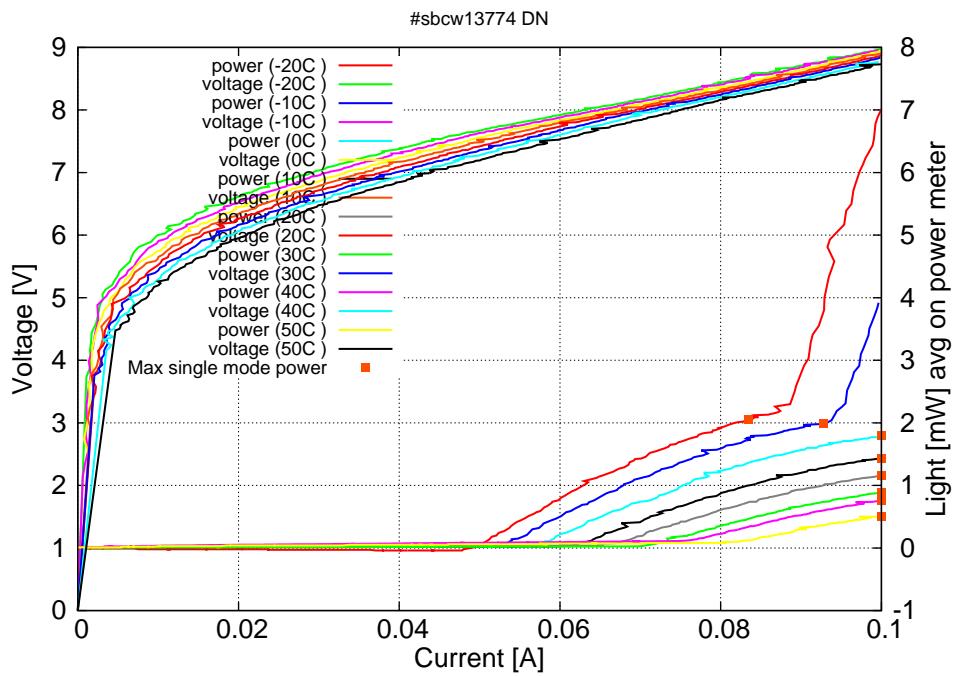
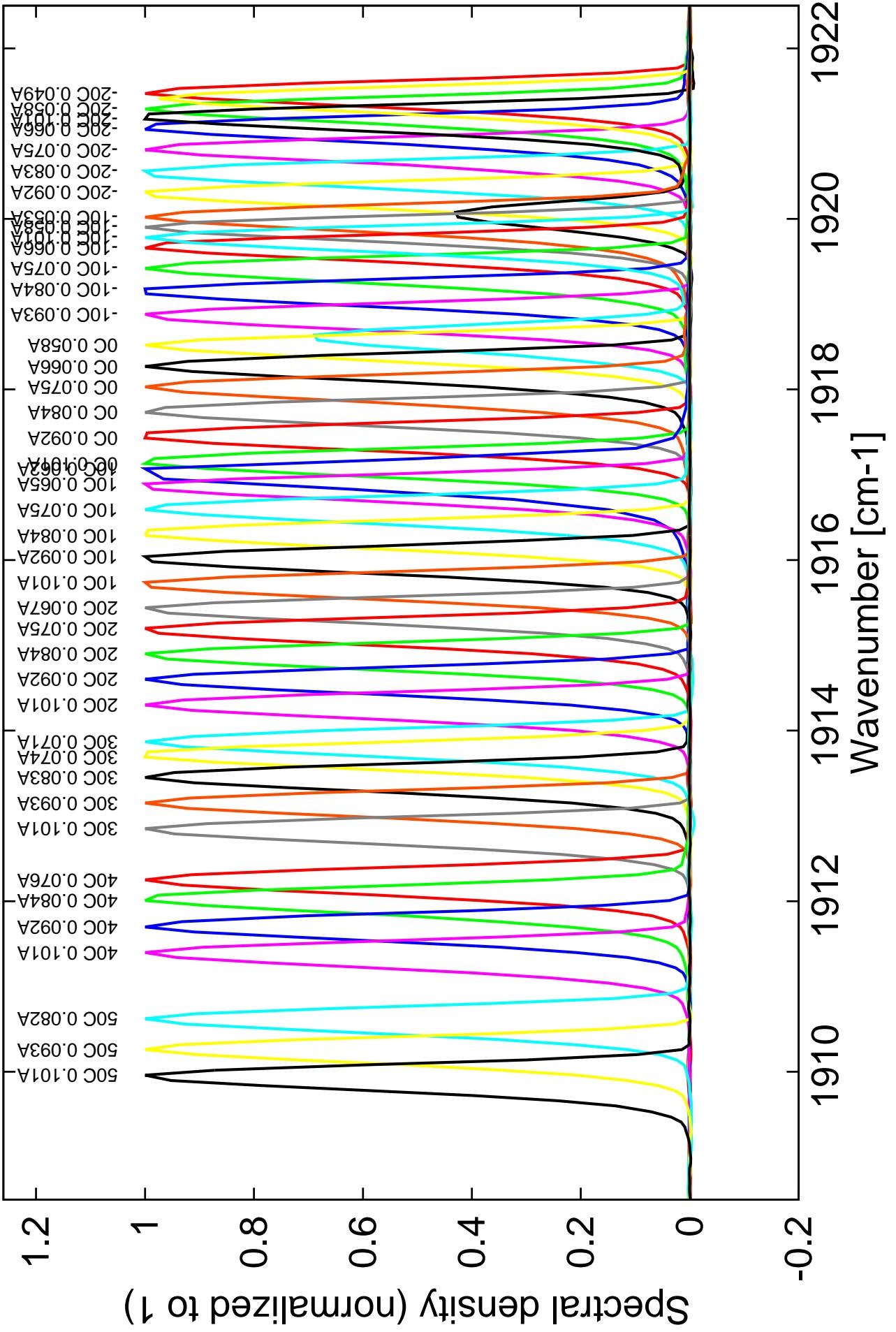


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C:  $I_{th}=0.05A$  /  $V_{th}=7.6V$  (2-wires measurements). Maximum operation current: 0.100A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



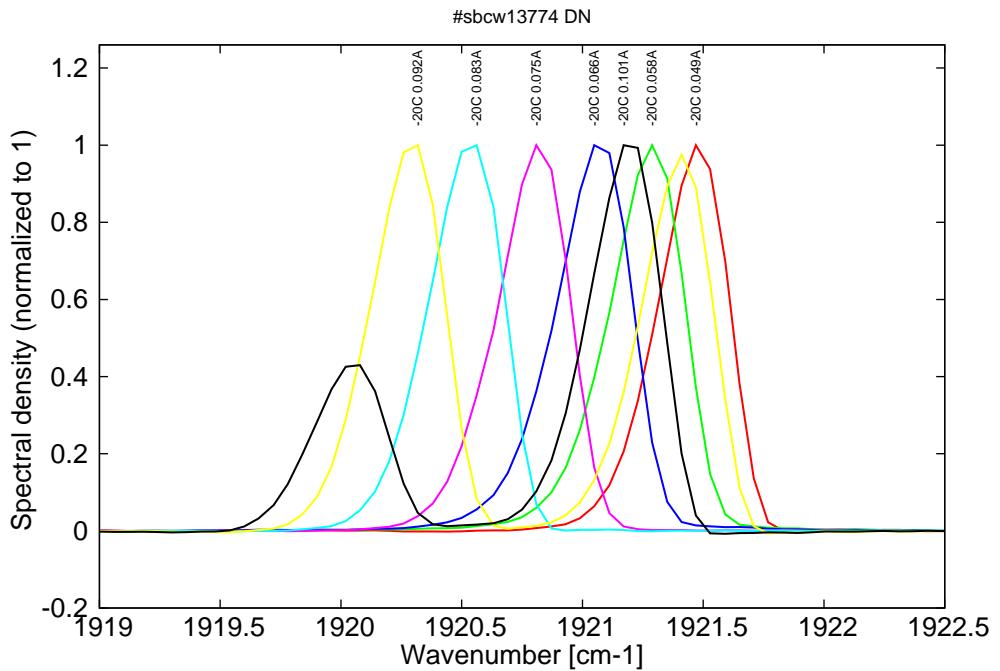


Figure 6: spectra at -20C for various DC currents (monomode up to 0.83A, then becomes bimode)

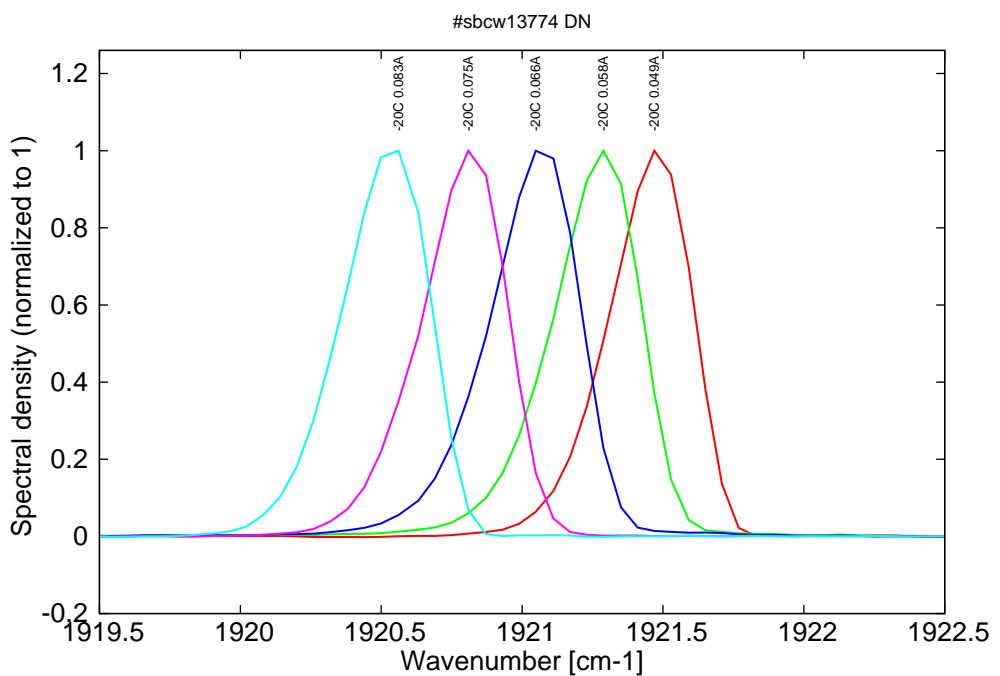


Figure 7: spectra at -20C for various DC currents (monomode range)

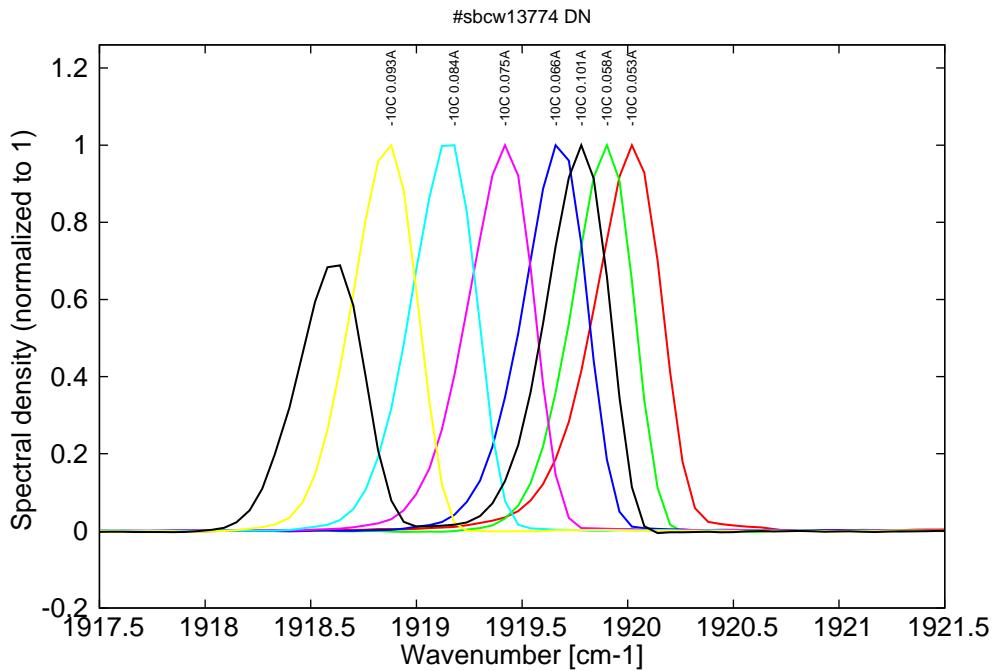


Figure 8: spectra at -10C for various DC currents (monomode up to 0.93A, then becomes bimode)

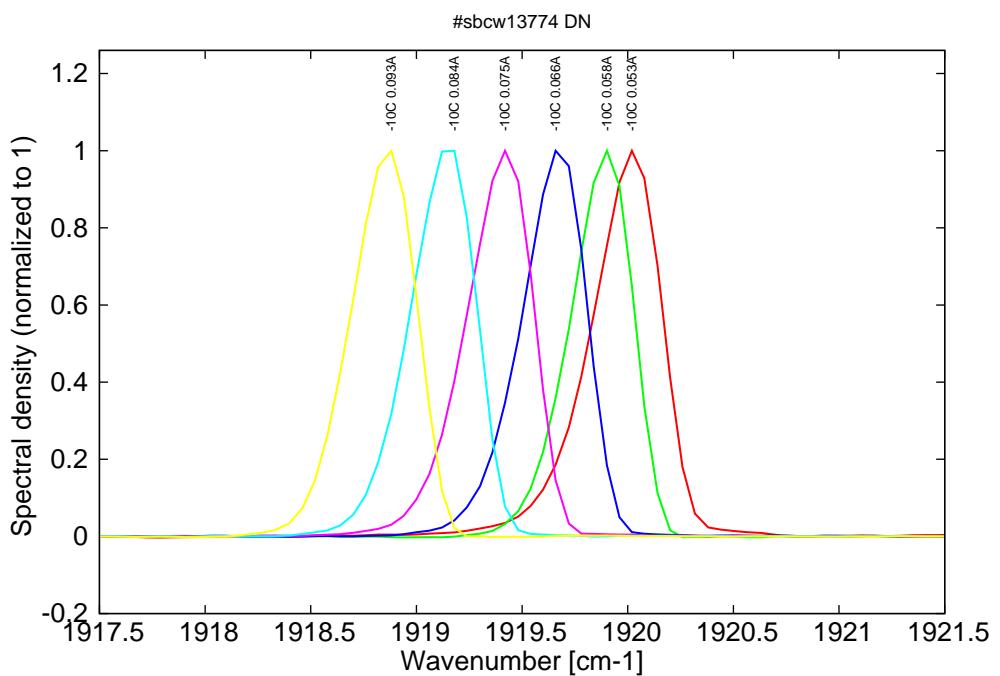


Figure 9: spectra at -10C for various DC currents (monomode range)

Figure 9: spectra between 0C and 50C for various DC currents (all monomode)

