

Datasheet for #sbcw24303 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 #sbcw24303 DN (please note that AlN submount numbering is A0V7P)

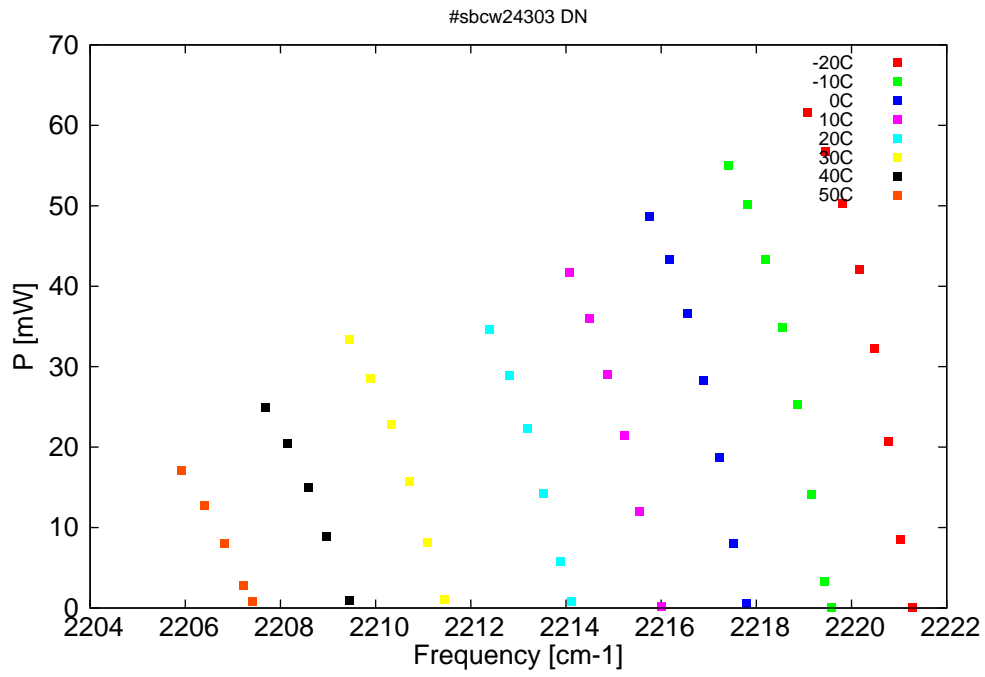


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

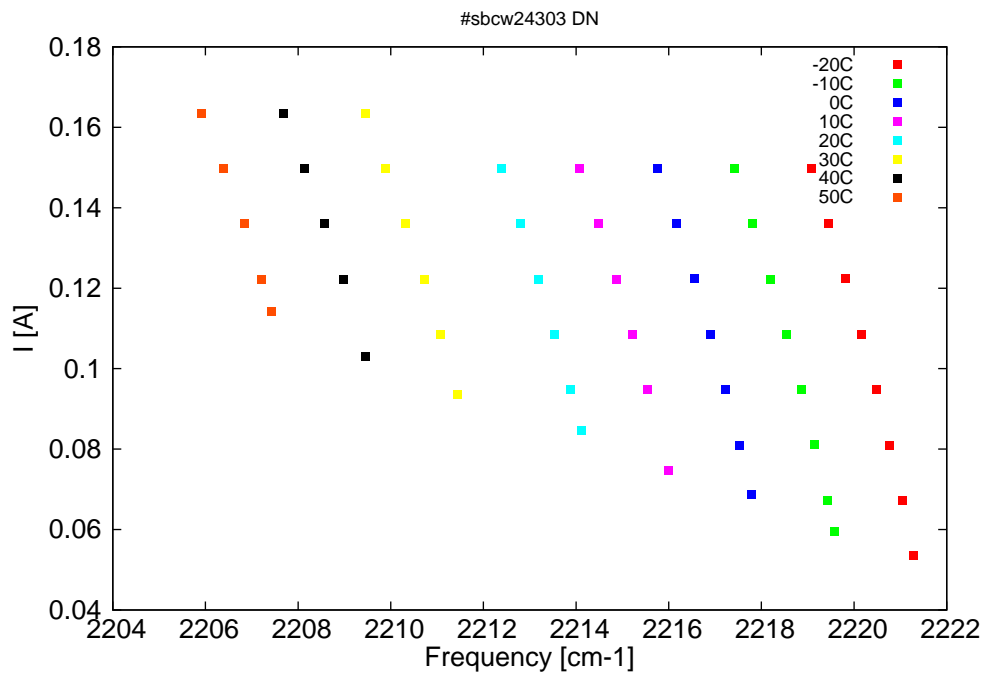


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4501.9	2221.3	0.1	-20	11.77	0.054
4502.4	2221	8.6	-20	11.97	0.067
4502.9	2220.8	20.7	-20	12.21	0.081
4503.5	2220.5	32.3	-20	12.46	0.095
4504.2	2220.2	42.1	-20	12.71	0.109
4504.9	2219.8	50.3	-20	12.96	0.122
4505.6	2219.5	56.8	-20	13.21	0.136
4506.4	2219.1	61.6	-20	13.47	0.15
4505.4	2219.6	0.1	-10	11.83	0.06
4505.6	2219.4	3.3	-10	11.92	0.067
4506.2	2219.2	14.1	-10	12.15	0.081
4506.8	2218.9	25.4	-10	12.39	0.095
4507.5	2218.5	34.8	-10	12.63	0.109
4508.2	2218.2	43.4	-10	12.88	0.122
4508.9	2217.8	50.2	-10	13.13	0.136
4509.7	2217.4	55.1	-10	13.38	0.15
4509	2217.8	0.6	0	11.92	0.069
4509.5	2217.5	8.1	0	12.09	0.081
4510.2	2217.2	18.7	0	12.33	0.095
4510.8	2216.9	28.2	0	12.56	0.109
4511.5	2216.6	36.6	0	12.8	0.122
4512.3	2216.2	43.3	0	13.05	0.136
4513.1	2215.8	48.6	0	13.3	0.15
4512.6	2216	0.2	10	11.98	0.075
4513.6	2215.5	12	10	12.27	0.095
4514.2	2215.2	21.4	10	12.5	0.109
4514.9	2214.9	29.1	10	12.74	0.122
4515.7	2214.5	36.1	10	12.98	0.136
4516.6	2214.1	41.7	10	13.22	0.15
4516.5	2214.1	0.8	20	12.1	0.085
4516.9	2213.9	5.7	20	12.23	0.095
4517.7	2213.5	14.3	20	12.45	0.109
4518.4	2213.2	22.2	20	12.68	0.122
4519.2	2212.8	28.9	20	12.91	0.136
4520	2212.4	34.6	20	13.16	0.15
4521.9	2211.4	1	30	12.2	0.094
4522.7	2211.1	8.2	30	12.4	0.109
4523.4	2210.7	15.8	30	12.61	0.122
4524.2	2210.3	22.8	30	12.83	0.136
4525.1	2209.9	28.5	30	13.06	0.15
4526	2209.4	33.3	30	13.29	0.163
4526	2209.5	0.9	40	12.32	0.103
4527	2209	8.8	40	12.56	0.122
4527.8	2208.6	15	40	12.77	0.136
4528.7	2208.1	20.5	40	12.99	0.15
4529.6	2207.7	24.9	40	13.22	0.163
4530.2	2207.4	0.9	50	12.46	0.114
4530.6	2207.2	2.8	50	12.55	0.122
4531.4	2206.8	8	50	12.73	0.136

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λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
4532.3	2206.4	12.7	50	12.93	0.15
4533.2	2205.9	17.1	50	13.15	0.163

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

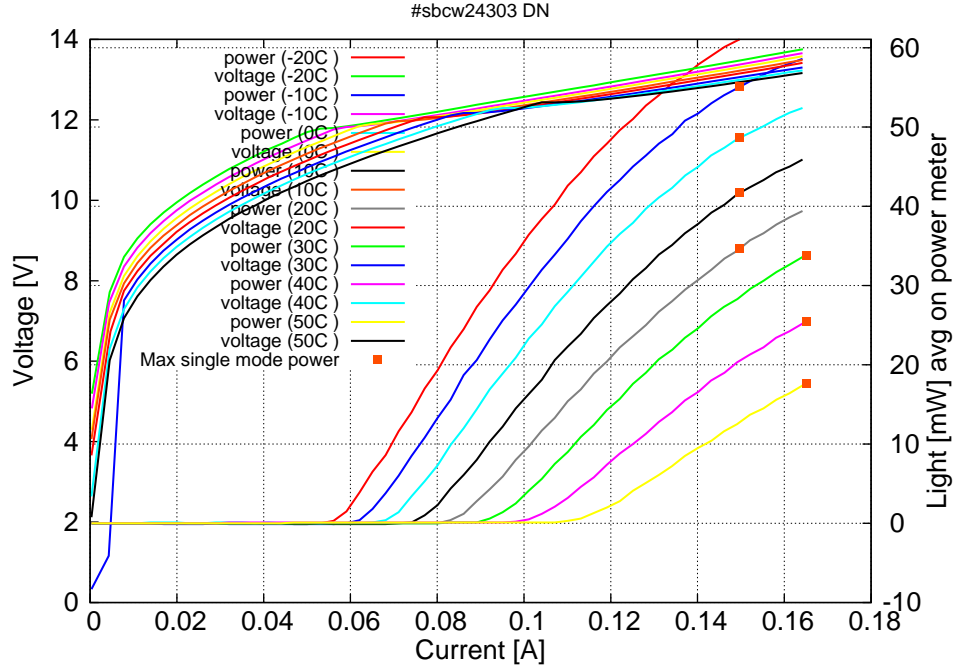


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.054\text{A}$ / $V_{th}=11.75\text{V}$ (2-wires measurements). Maximum operation current: 0.15A between -20C and 20C, 0.165A between 30C and 50C.

Figure 3: spectra at different temperatures for various DC currents

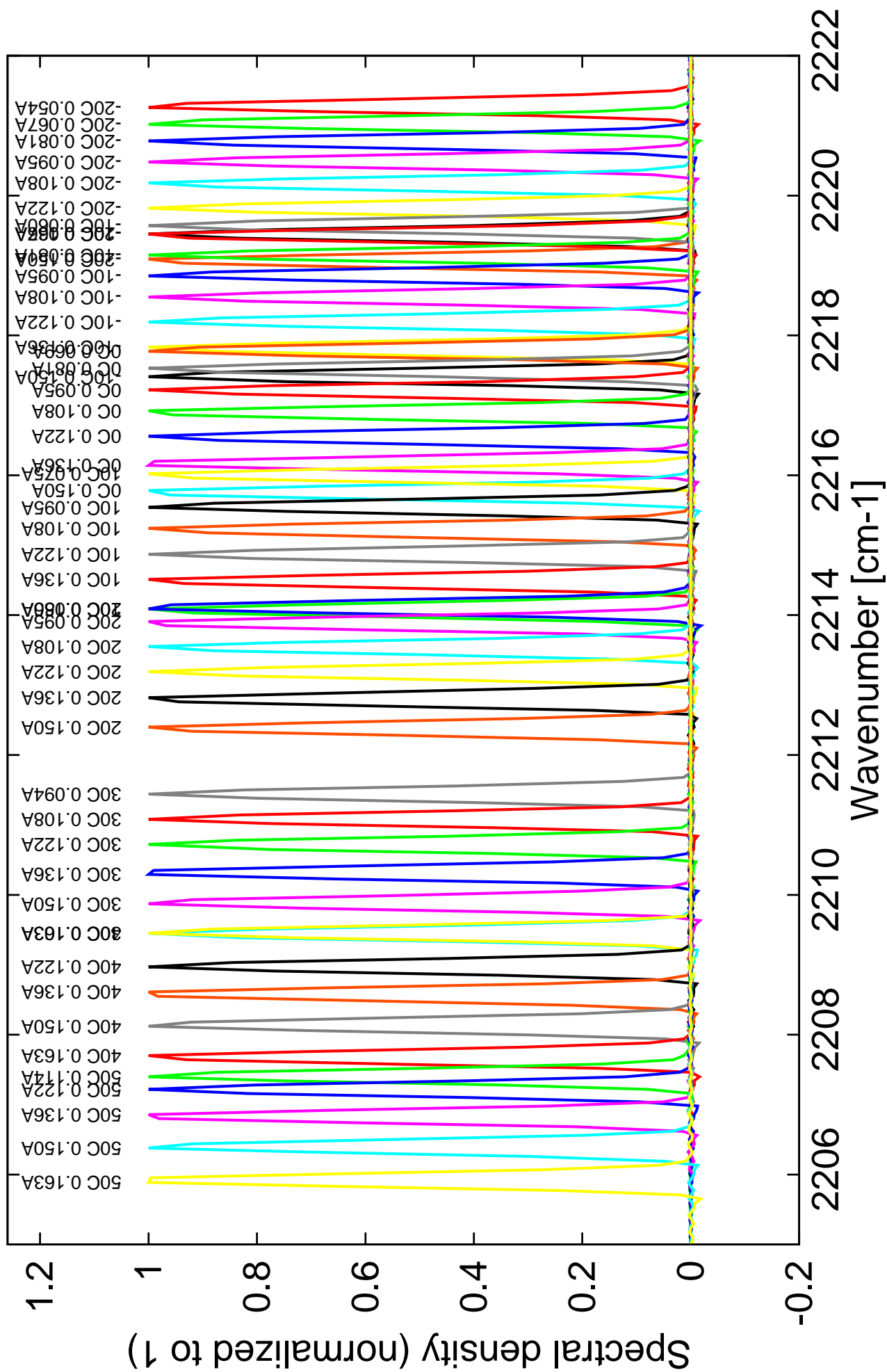


Figure 4: spectra between -20C and 20C for various DC currents, monomode on mode 1

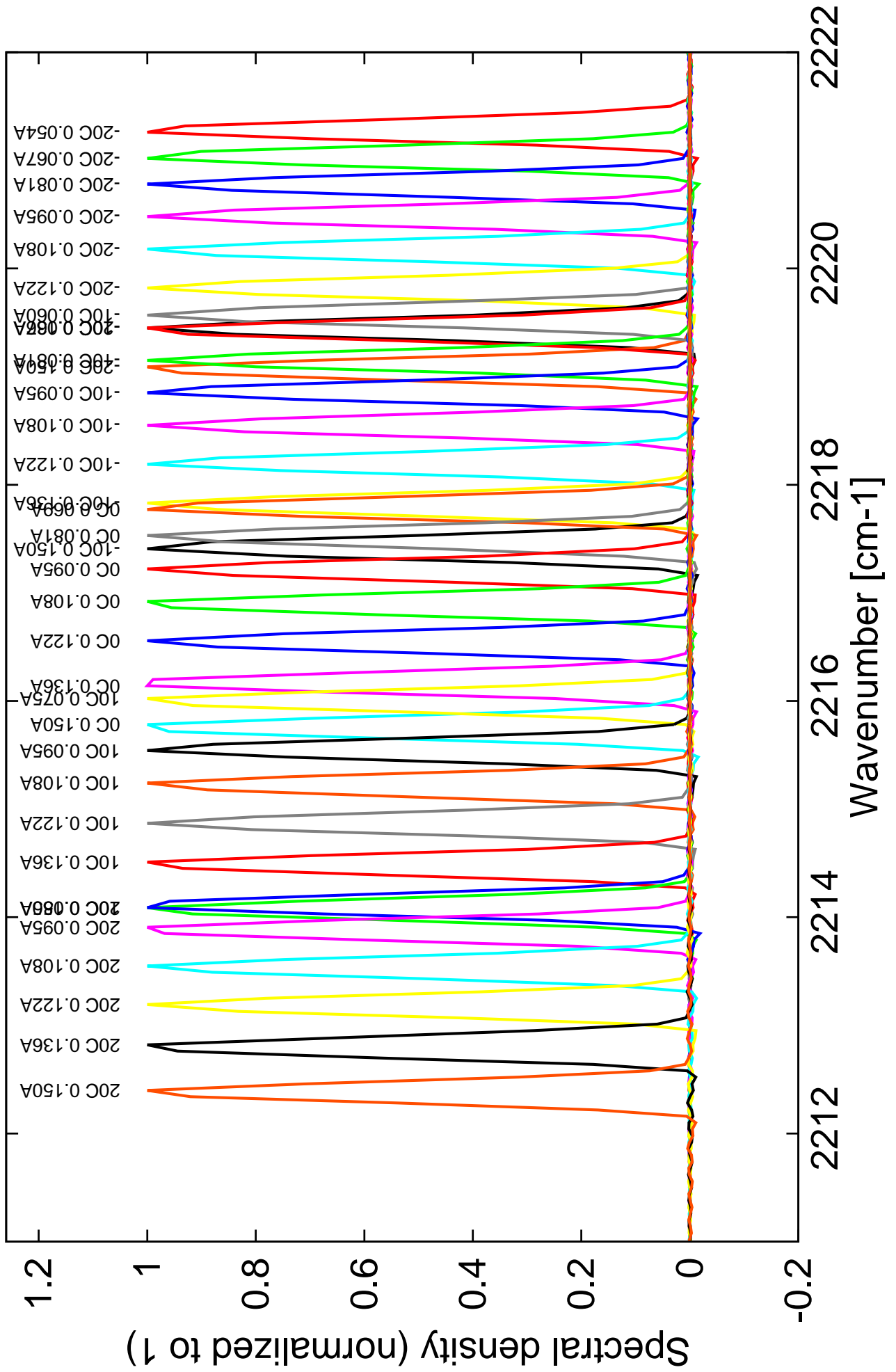


Figure 5: spectra between 30C and 50C for various DC currents, monomode on mode 2

