

Datasheet for #sbcw14228 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 #sbcw14228 DN (please note that AlN submount numbering is A0LYJ)

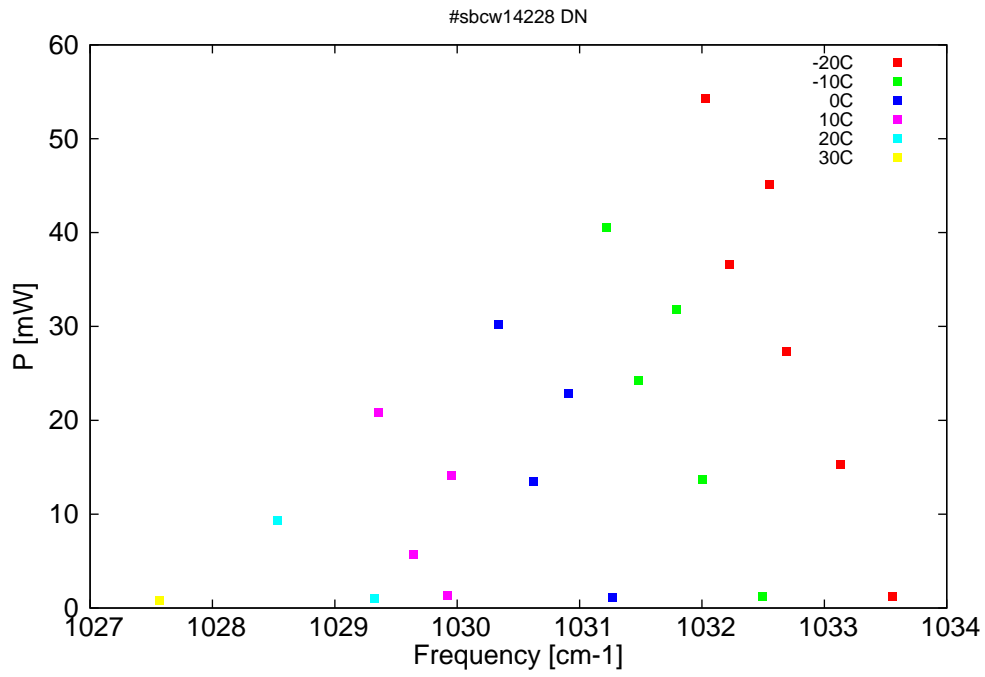


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

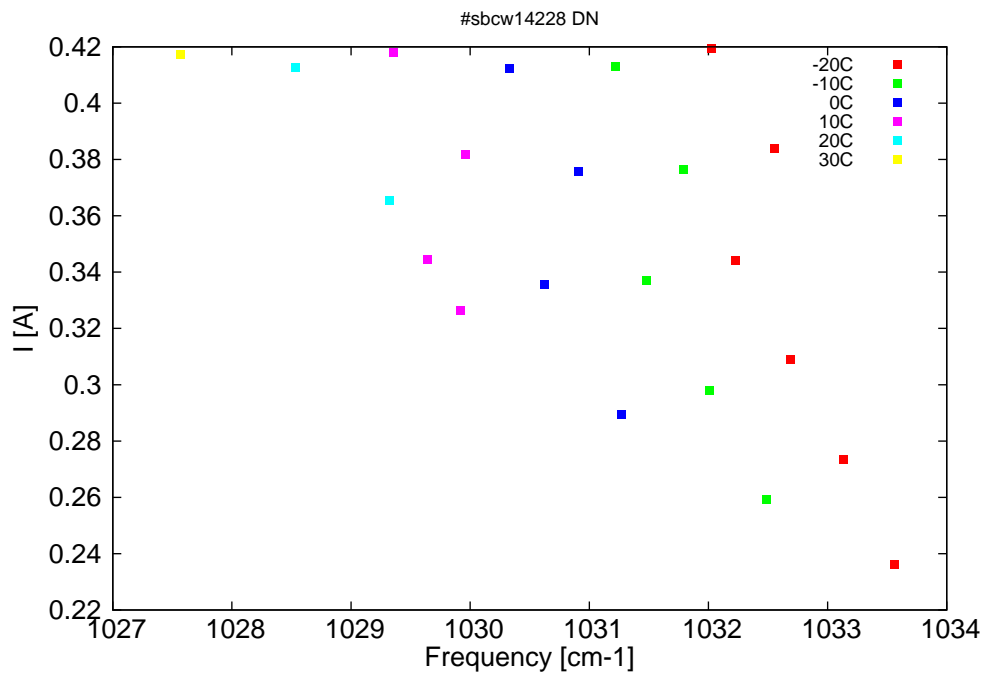


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9675.3	1033.6	1.3	-20	9.2	0.24
9679.3	1033.1	15.2	-20	9.5	0.27
9683.4	1032.7	27.3	-20	9.8	0.31
9687.8	1032.2	36.6	-20	10.1	0.34
9684.7	1032.6	45.2	-20	10.4	0.38
9689.7	1032	54.3	-20	10.6	0.42
9685.3	1032.5	1.2	-10	9.3	0.26
9689.9	1032	13.7	-10	9.6	0.3
9694.8	1031.5	24.3	-10	9.9	0.34
9691.9	1031.8	31.8	-10	10.2	0.38
9697.2	1031.2	40.5	-10	10.5	0.41
9696.8	1031.3	1.1	0	9.5	0.29
9702.8	1030.6	13.5	0	9.8	0.34
9700.2	1030.9	22.8	0	10.1	0.38
9705.6	1030.3	30.2	0	10.4	0.41
9709.5	1029.9	1.4	10	9.7	0.33
9712.1	1029.6	5.7	10	9.8	0.34
9709.1	1030	14.2	10	10.1	0.38
9714.8	1029.4	20.9	10	10.4	0.42
9715.1	1029.3	1	20	9.9	0.37
9722.6	1028.5	9.3	20	10.3	0.41
9731.7	1027.6	0.8	30	10.2	0.42

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

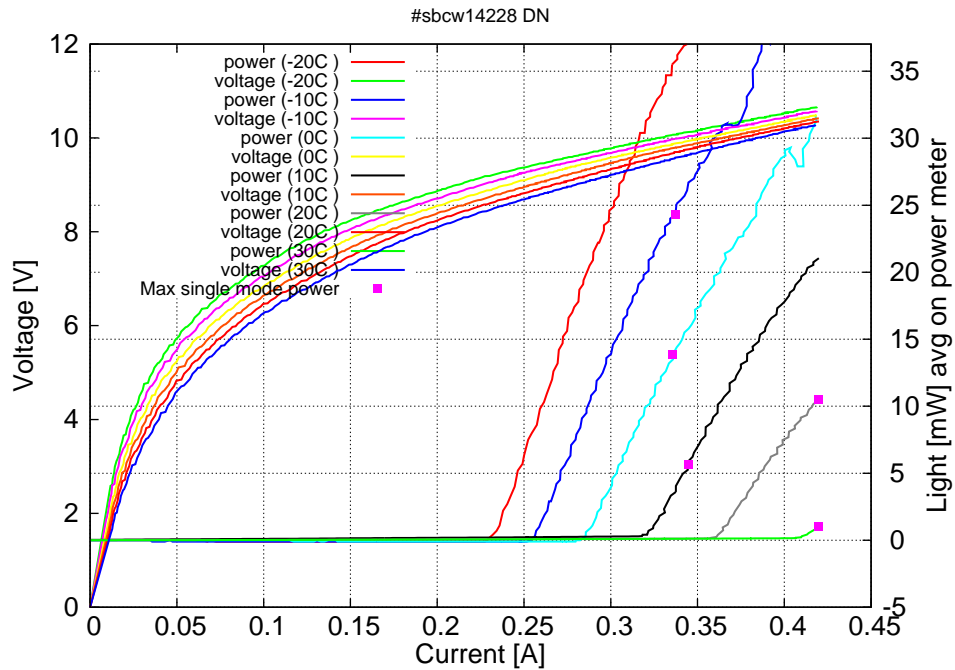
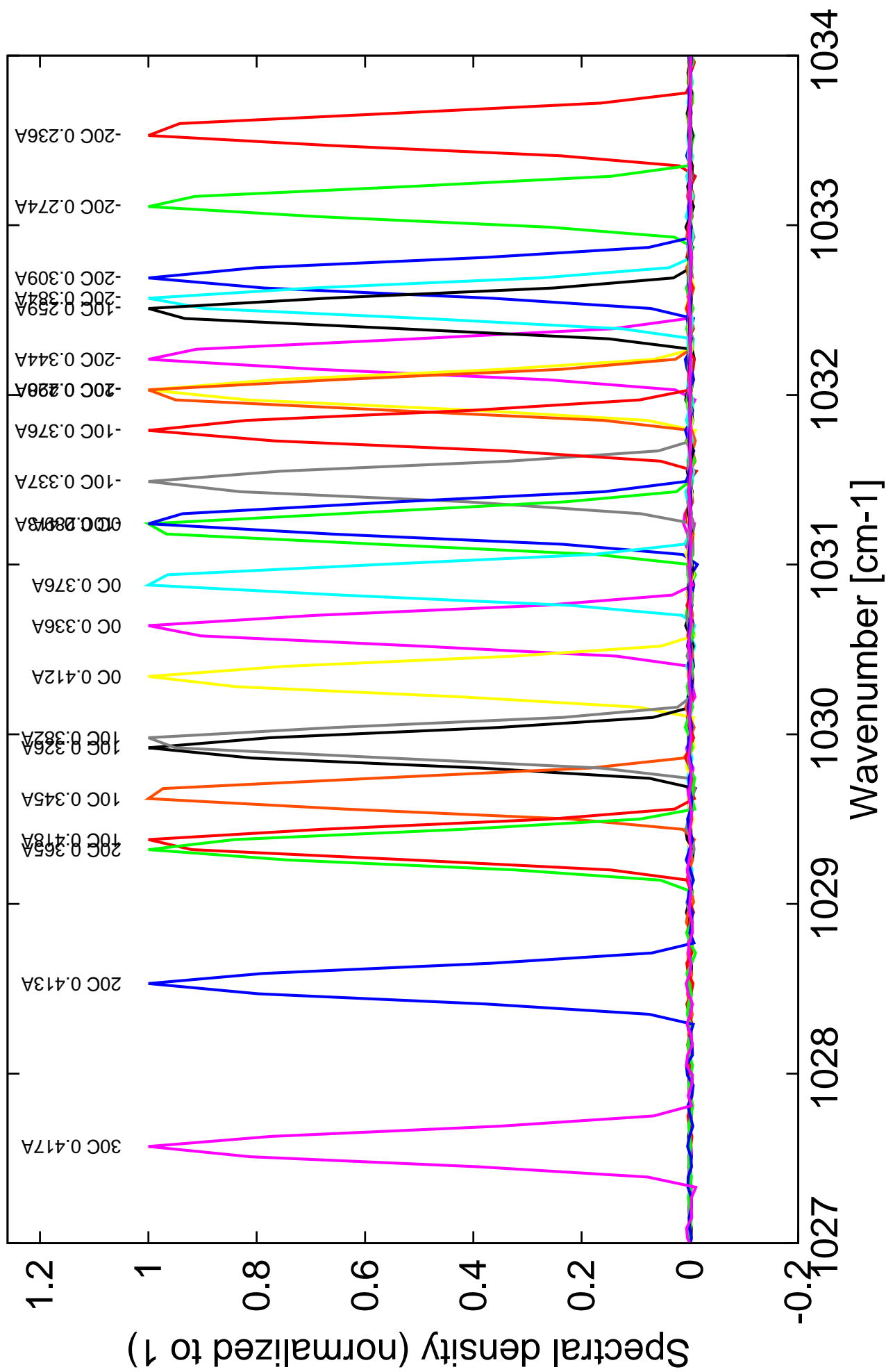


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.23A$ / $V_{th}=9.2V$ (2-wires measurements). Maximum operation current: 0.420A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



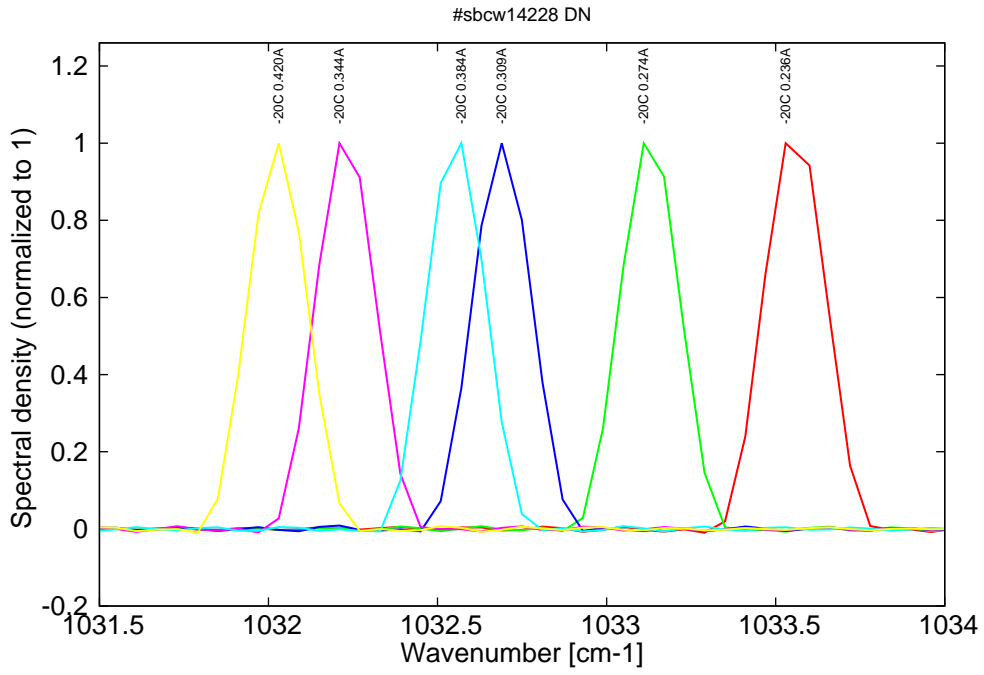


Figure 5: Spectra at -20C for various DC currents, monomode on mode 1 up to 0.344A then becomes monomode on mode 2

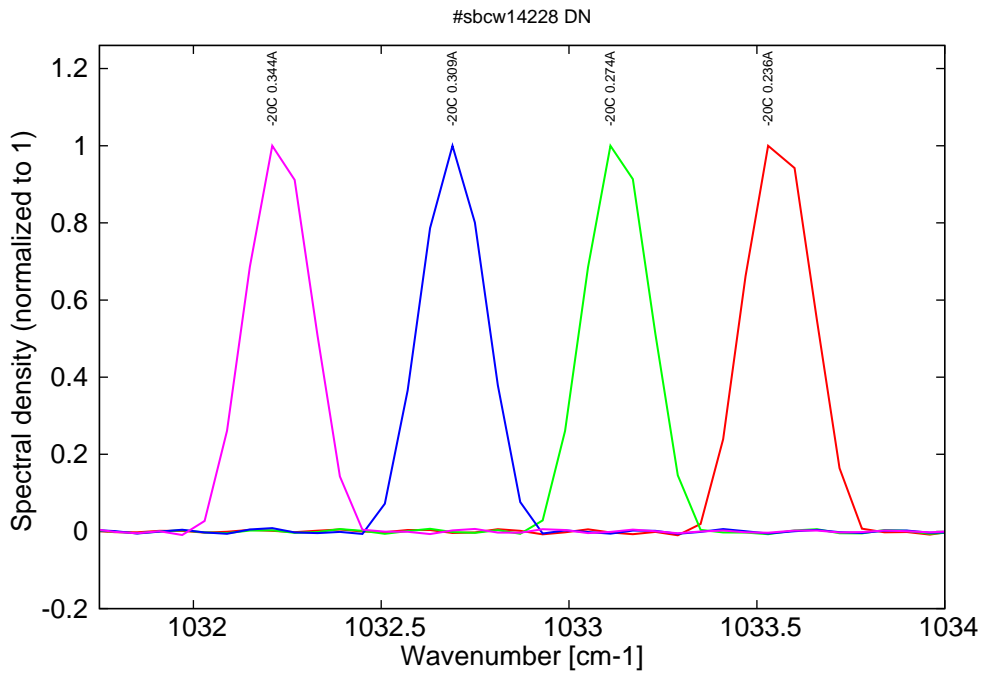


Figure 6: Spectra at -20C for various DC currents, monomode on mode 1 range

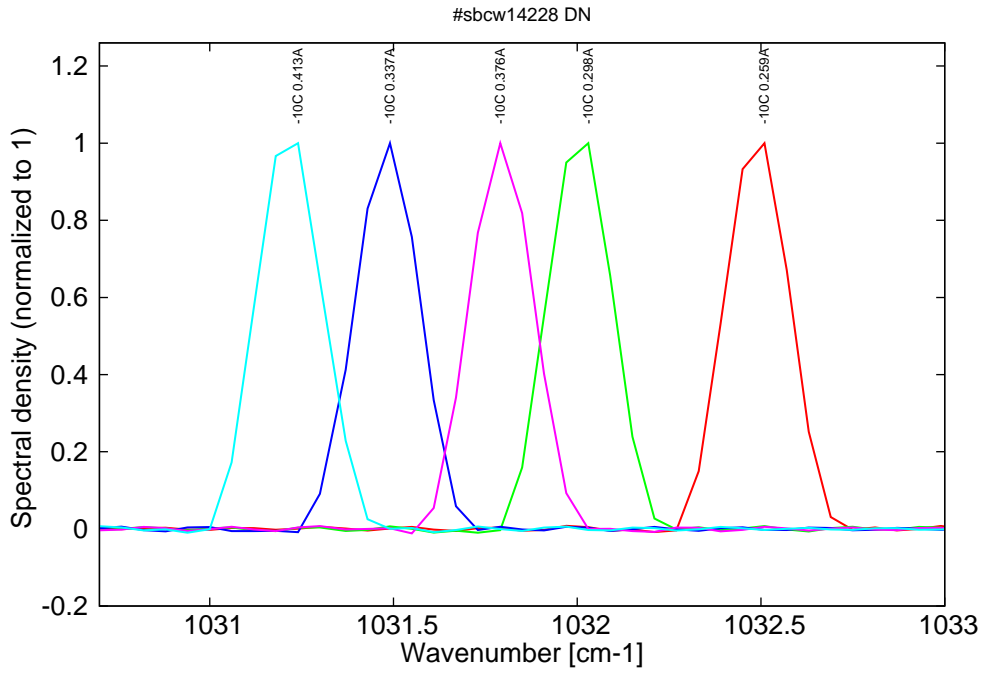


Figure 7: Spectra at -10C for various DC currents, monomode on mode 1 up to 0.337A then becomes monomode on mode 2

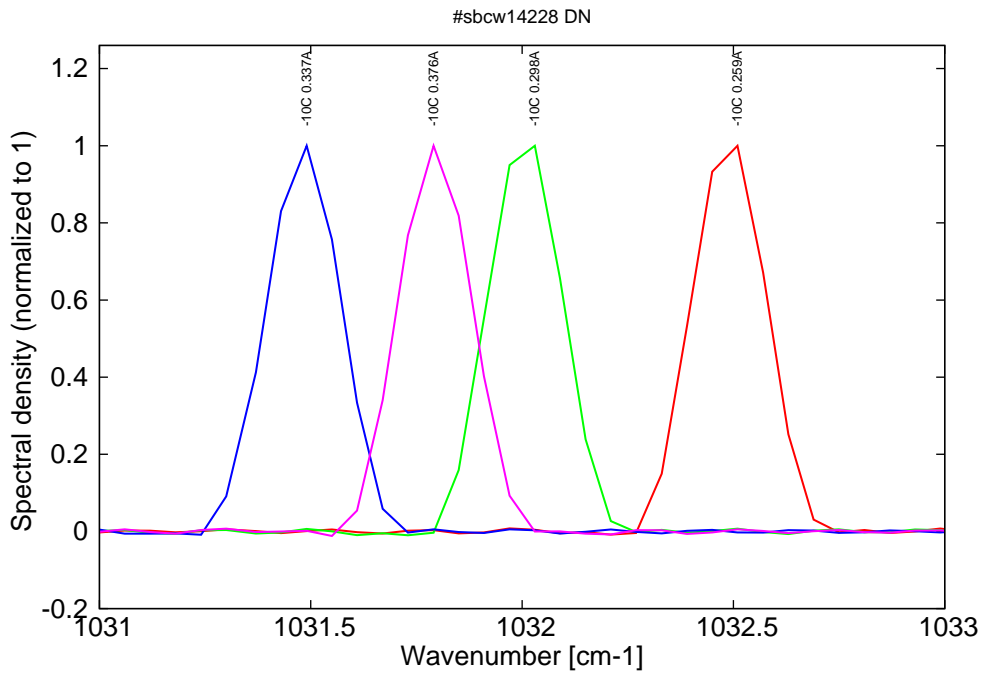


Figure 8: Spectra at -10C for various DC currents, monomode on mode 1 range

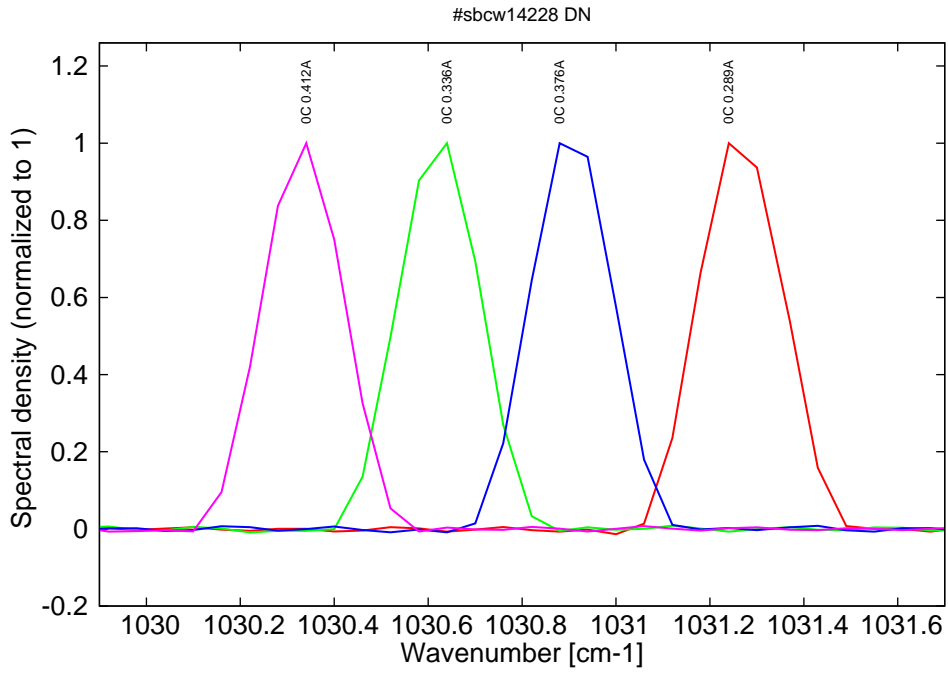


Figure 9: Spectra at 0C for various DC currents, monomode on mode 1 up to 0.336A then becomes monomode on mode 2

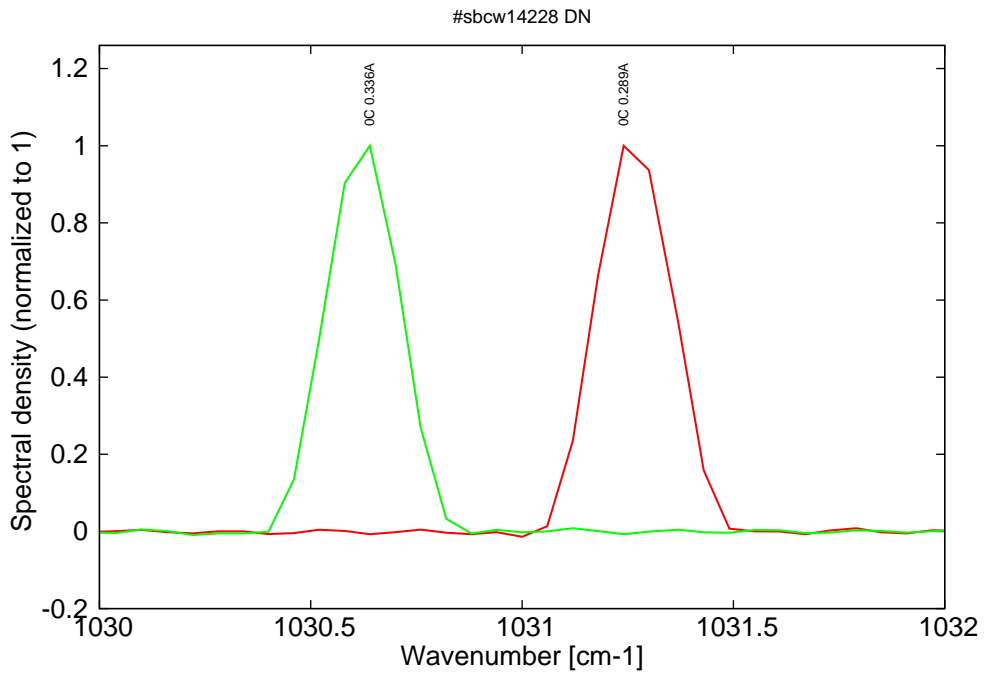


Figure 10: Spectra at 0C for various DC currents, monomode on mode 1 range

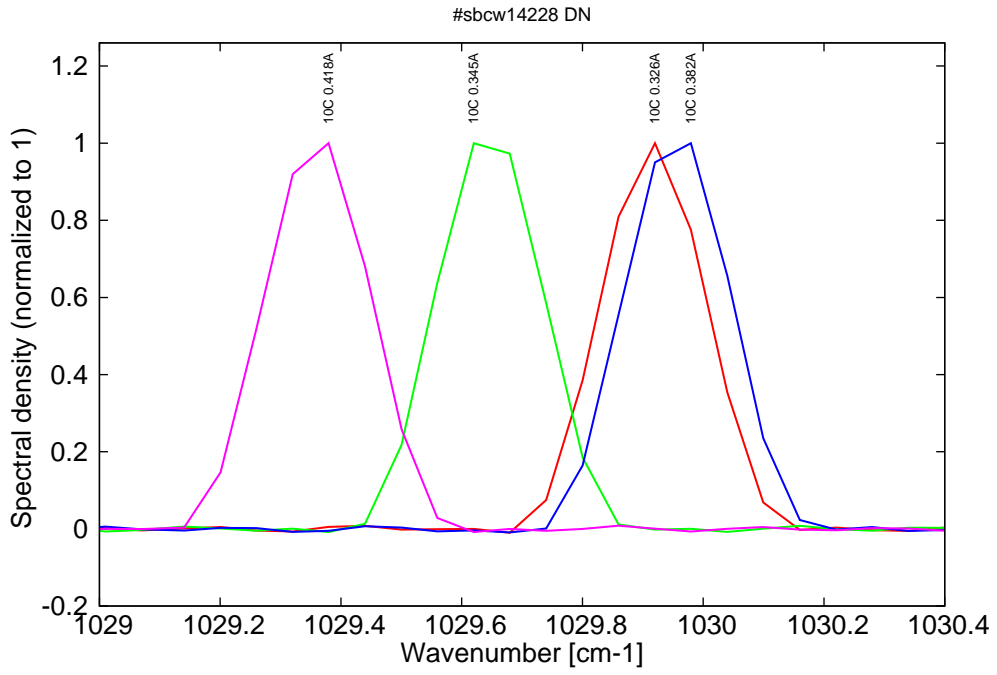


Figure 11: Spectra at 10C for various DC currents, monomode on mode 1 up to 0.345A then becomes monomode on mode 2

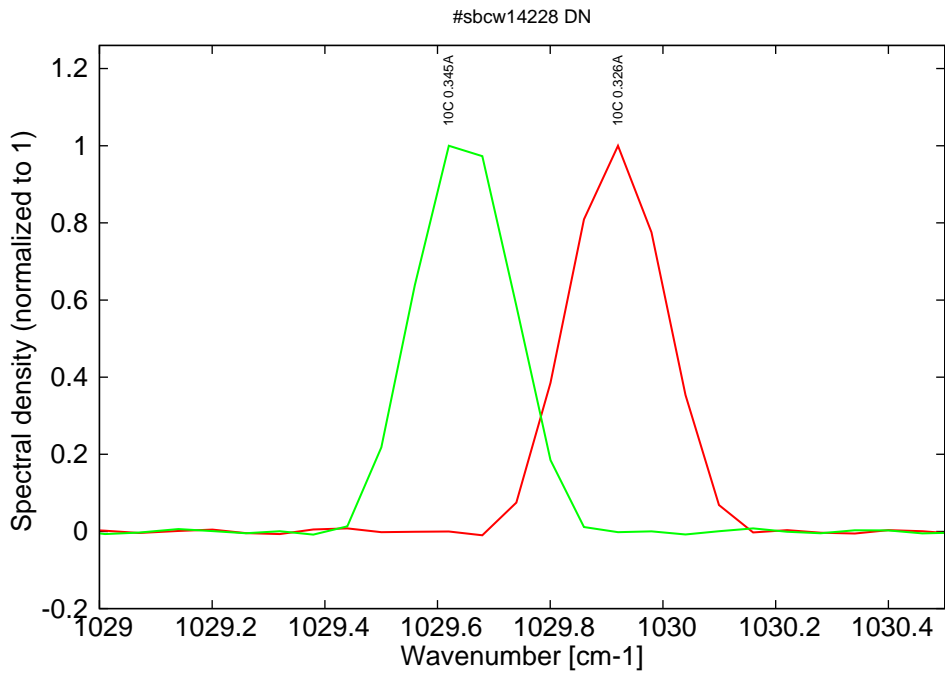


Figure 12: Spectra at 10C for various DC currents, monomode on mode 1 range

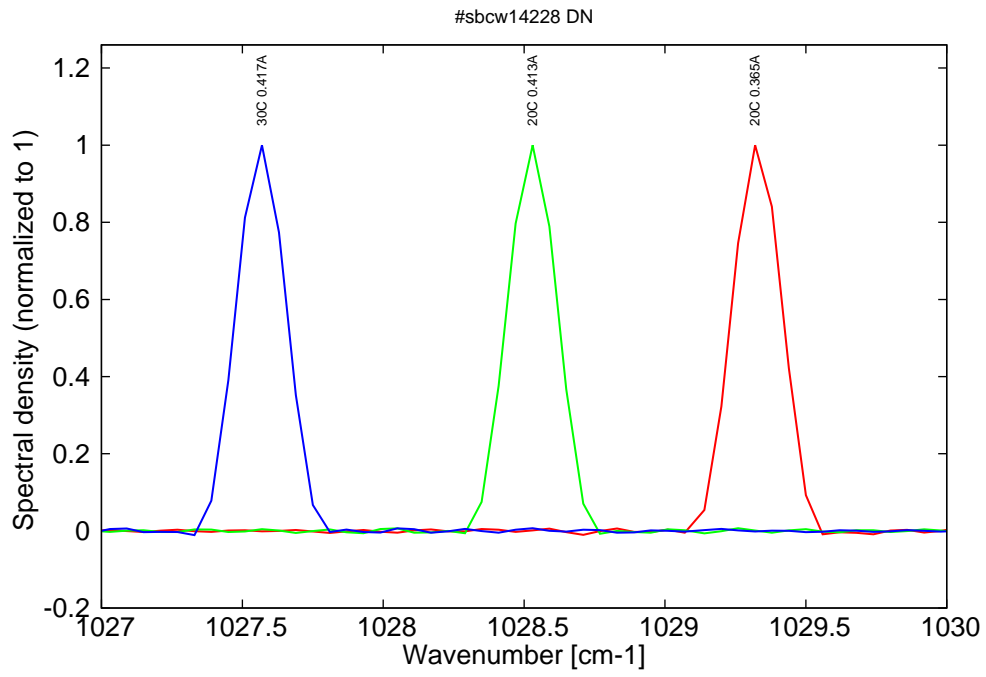


Figure 13: Spectra at 20C and 30C for various DC currents, all monomode on mode 2