

Datasheet for #sbcw14242 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.

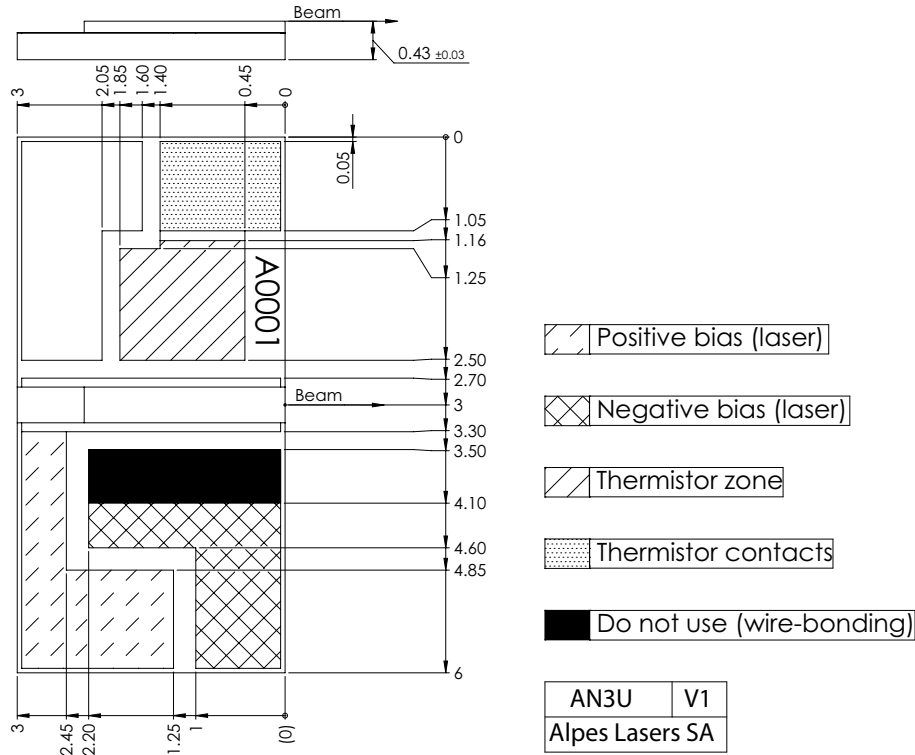


Figure 1: Mechanical and electrical interface for #sbcw14242 DN (please note that AlN submount numbering is A0LXD)

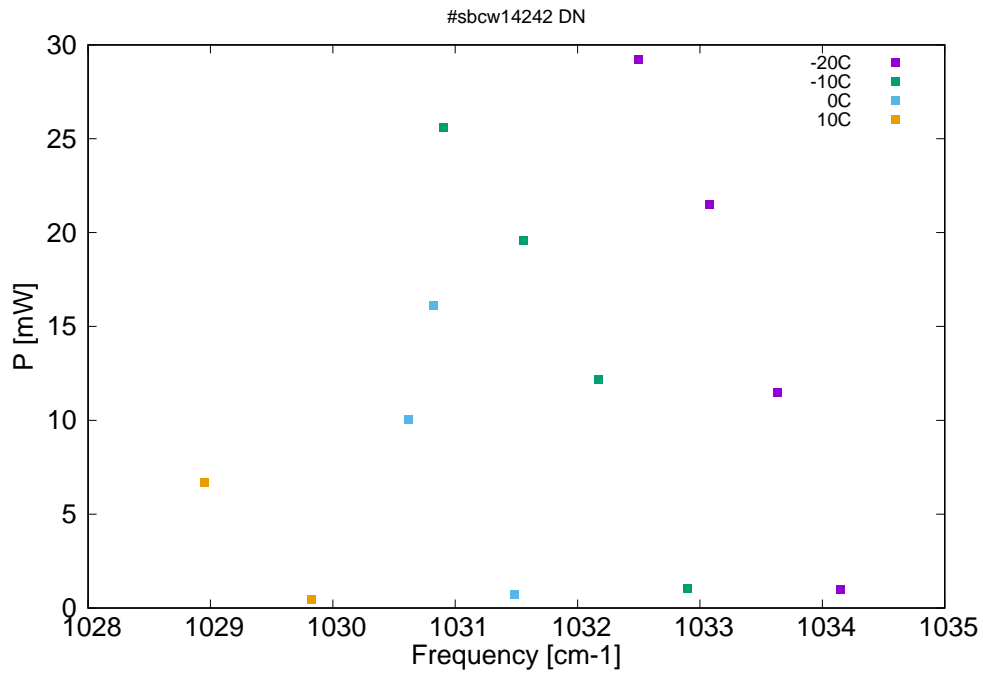


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

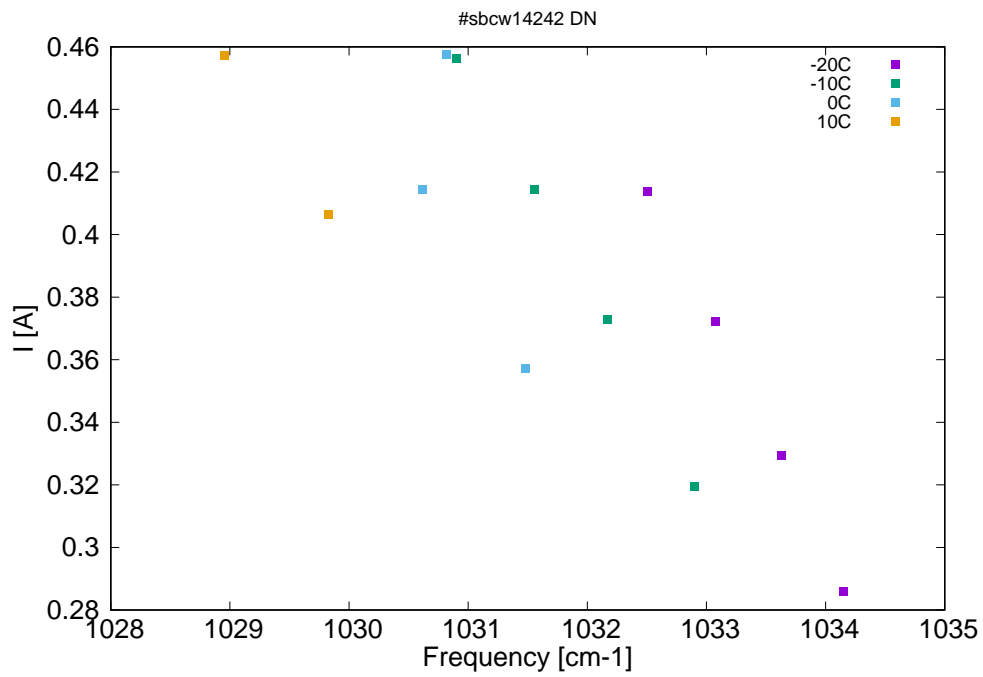


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9669.8	1034.2	1	-20	9.4	0.29
9674.6	1033.6	11.5	-20	9.8	0.33
9679.8	1033.1	21.5	-20	10.1	0.37
9685.2	1032.5	29.2	-20	10.3	0.41
9681.5	1032.9	1	-10	9.6	0.32
9688.3	1032.2	12.2	-10	10	0.37
9694	1031.6	19.6	-10	10.2	0.41
9700.2	1030.9	25.6	-10	10.5	0.46
9694.8	1031.5	0.7	0	9.7	0.36
9702.9	1030.6	10.1	0	10.1	0.41
9701	1030.8	16.1	0	10.4	0.46
9710.4	1029.8	0.4	10	10	0.41
9718.6	1029	6.7	10	10.3	0.46

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

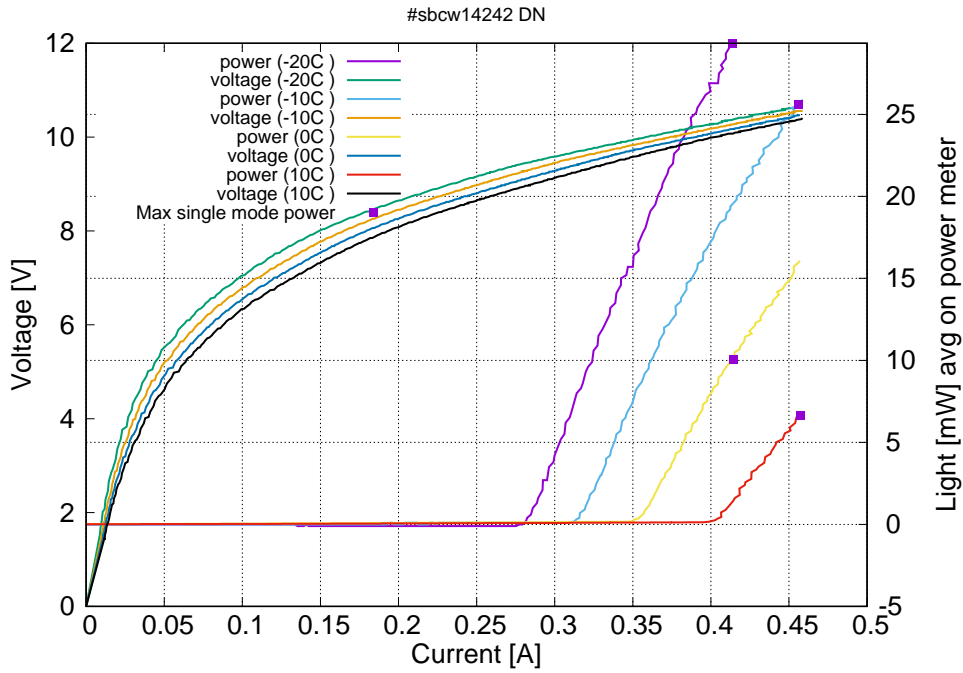


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

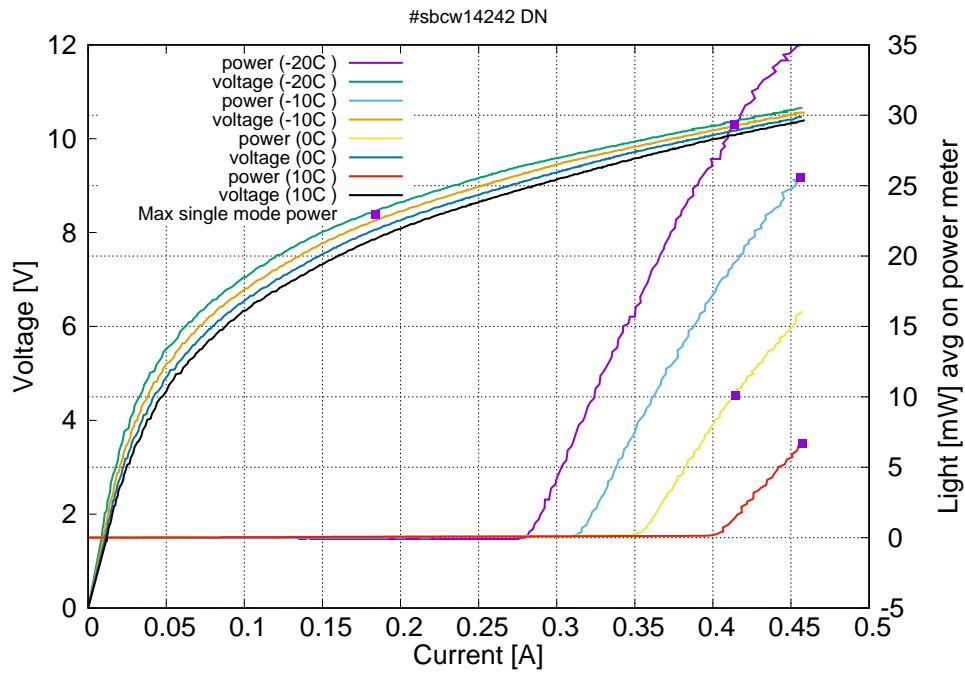
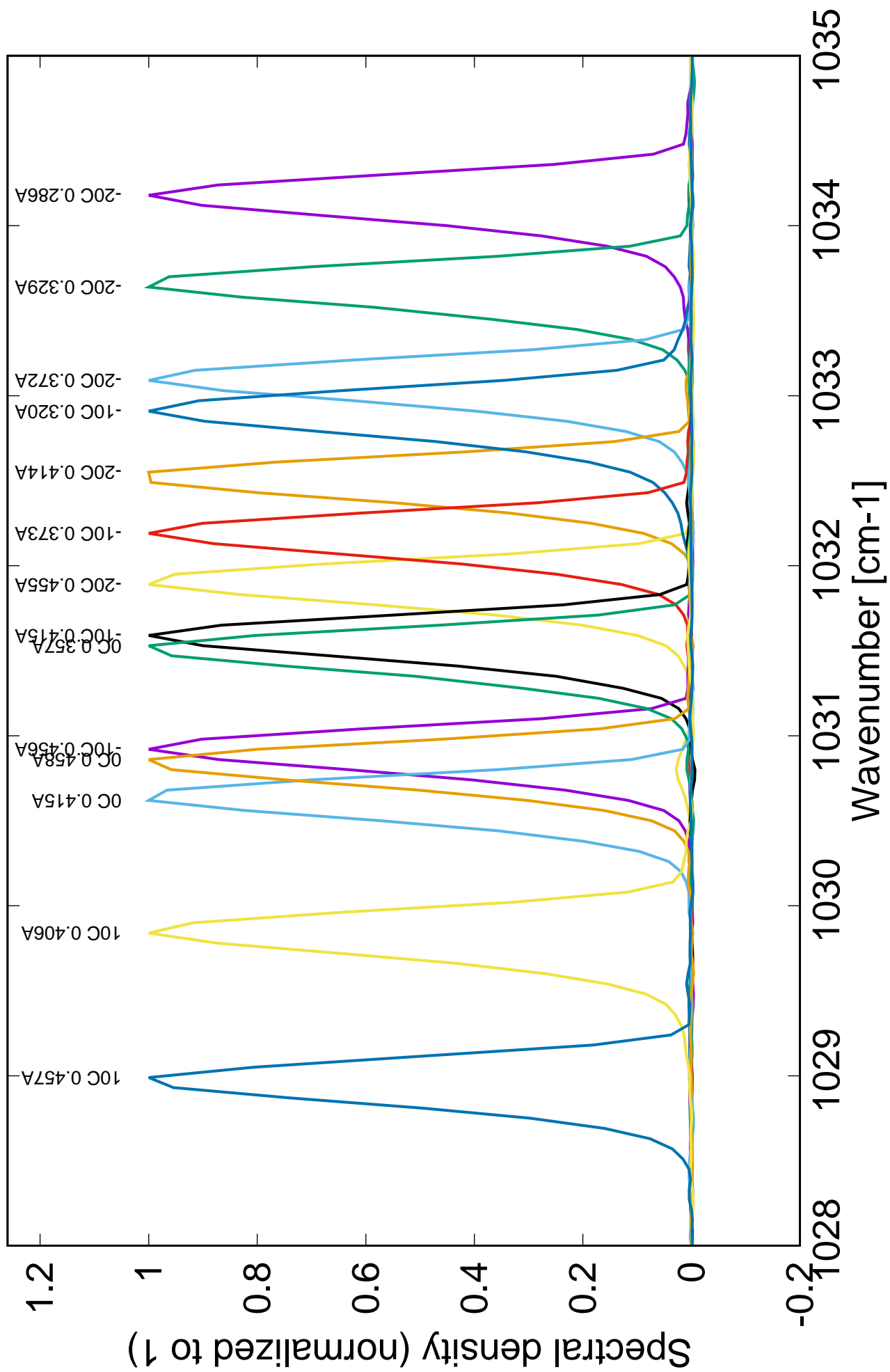


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C: $I_{th}=0.28A$ / $V_{th}=9.4V$ (2-wires measurements). Maximum operation current: 0.460A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



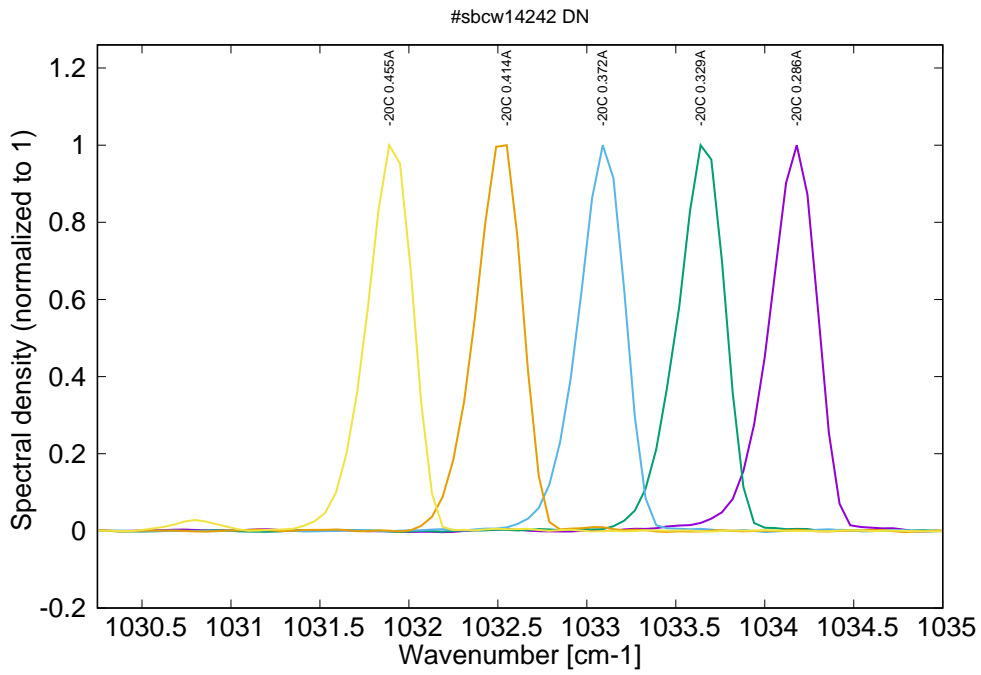


Figure 6: Spectra at -20C for various DC currents, monomode on mode 1 up to 0.41A then becomes bimode

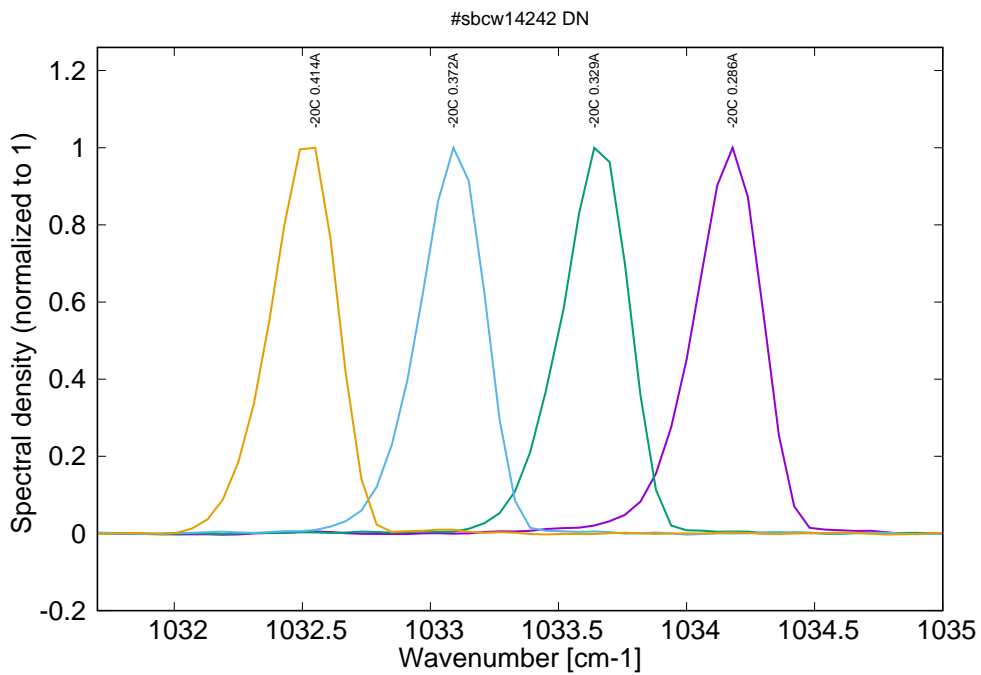


Figure 7: Spectra at -20C for various DC currents, monomode on mode 1 range

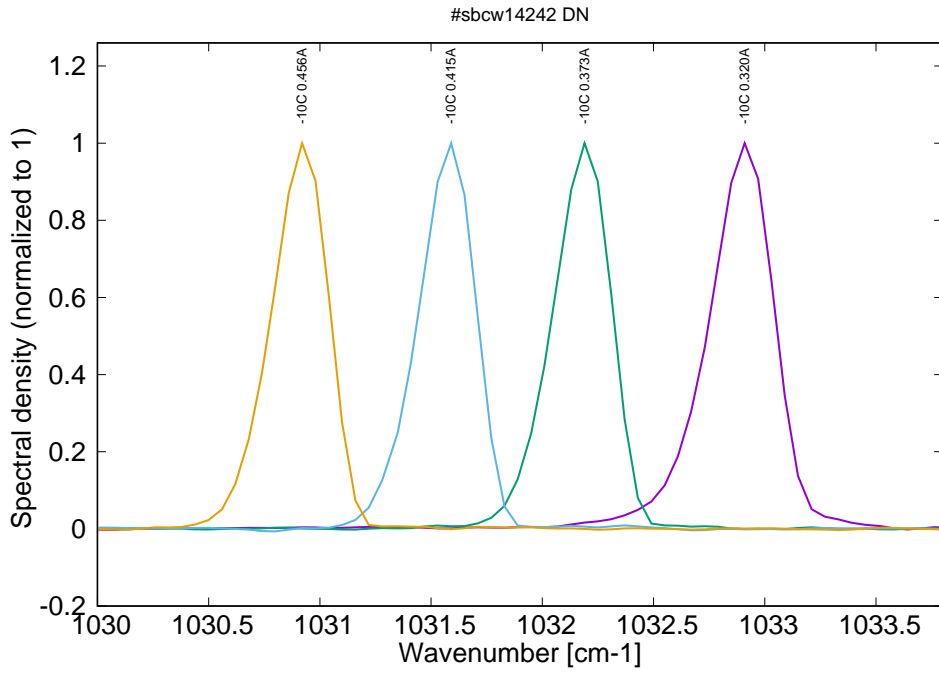


Figure 8: Spectra at -10C for various DC currents, all monomode on mode 1

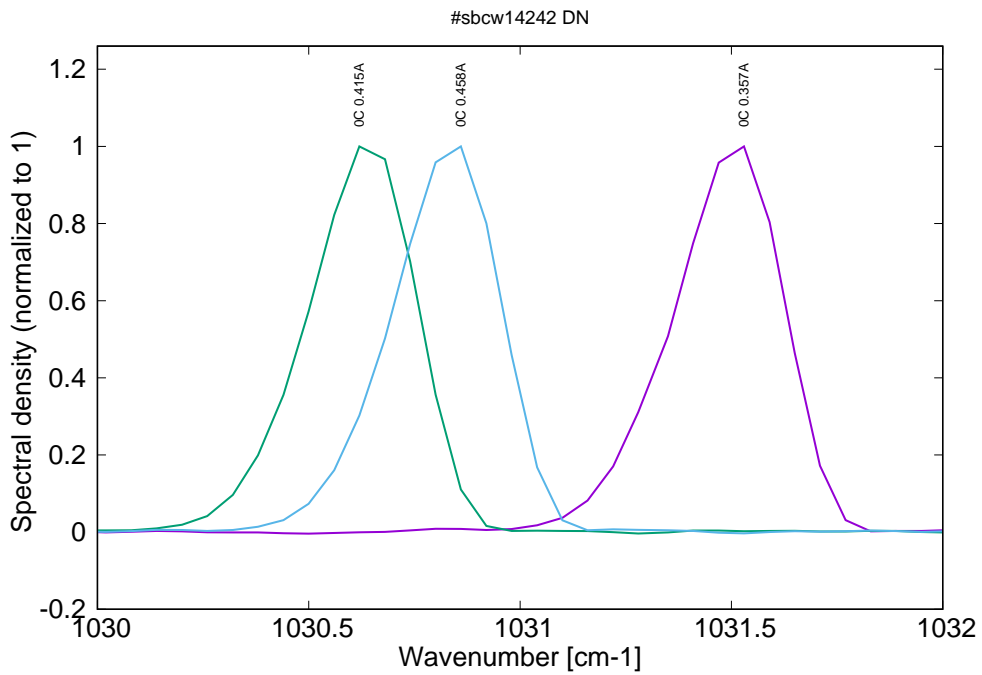


Figure 9: Spectra at 0C for various DC currents, monomode on mode 1 up to 0.415A then becomes monomode on mode 2

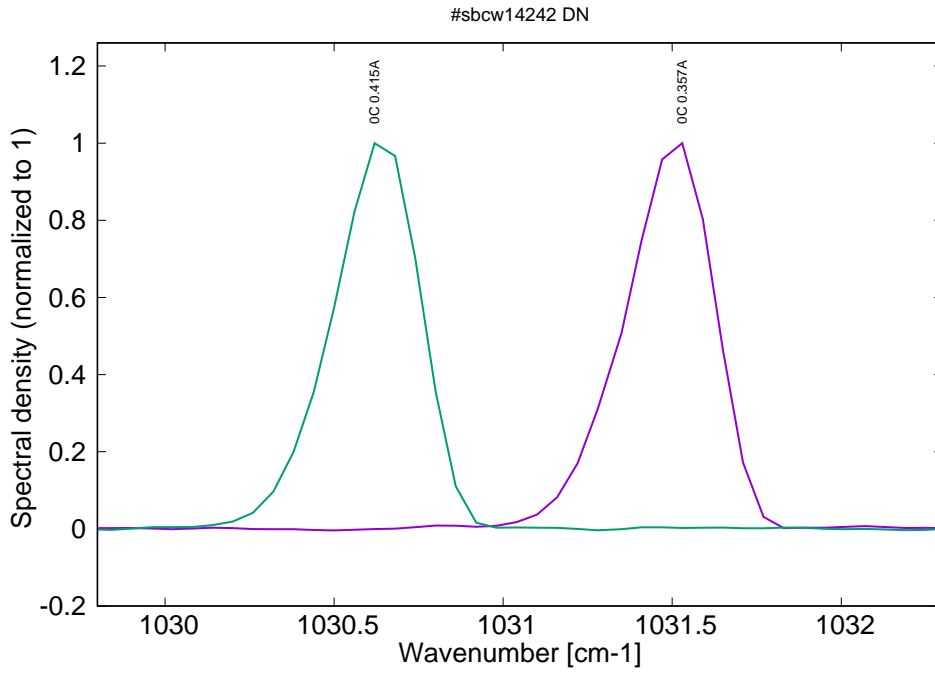


Figure 10: Spectra at 0C for various DC currents, monomode on mode 1 range

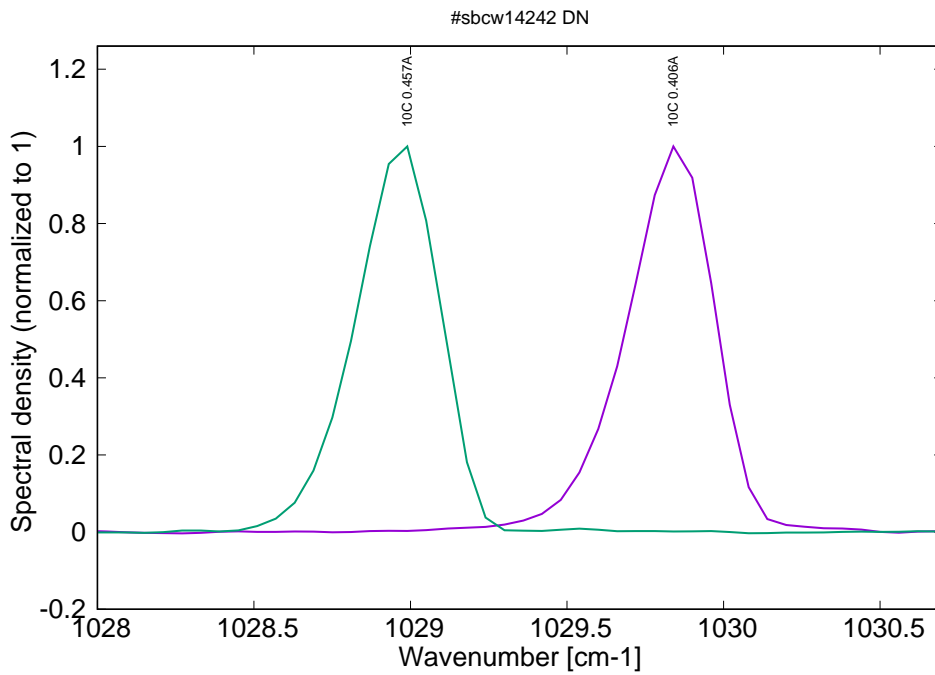


Figure 11: Spectra at 10C for various DC currents, all monomode on mode 1