

Datasheet for #sbcw10635 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 use with a power-supply ILX Lightwave LDX-3232 or equivalent.



Figure 1: Support mounting for #sbcw10635 DN

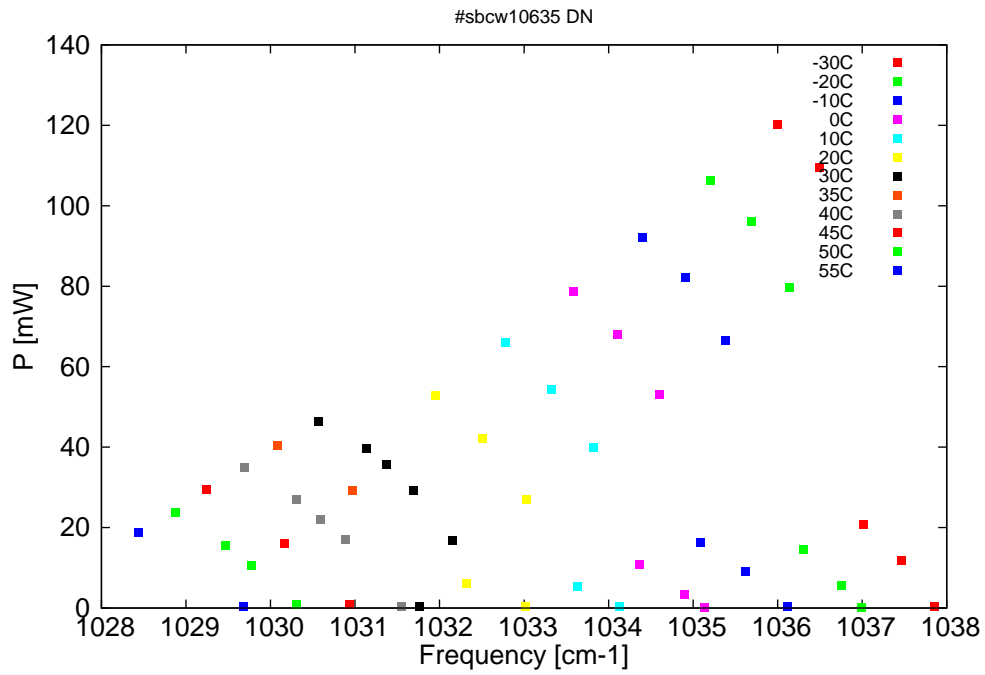


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

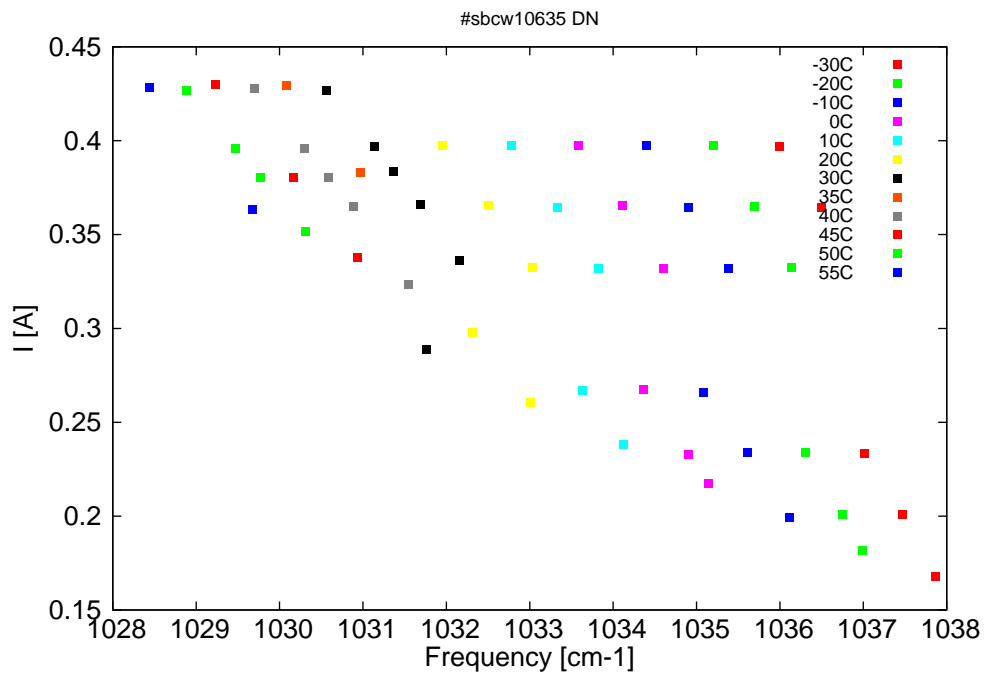


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9635.2	1037.9	0.3	-30	8.6	0.17
9638.9	1037.5	11.7	-30	8.9	0.2
9643.1	1037	20.8	-30	9.2	0.23
9647.9	1036.5	109.5	-30	10.3	0.36
9652.6	1036	120.2	-30	10.5	0.4
9643.2	1037	0.1	-20	8.7	0.18
9645.5	1036.8	5.5	-20	8.8	0.2
9649.6	1036.3	14.6	-20	9.1	0.23
9651.2	1036.1	79.8	-20	10	0.33
9655.4	1035.7	96.2	-20	10.2	0.36
9659.9	1035.2	106.3	-20	10.5	0.4
9651.5	1036.1	0.3	-10	8.7	0.2
9656.1	1035.6	9.2	-10	9.1	0.23
9661	1035.1	16.2	-10	9.4	0.27
9658.2	1035.4	66.6	-10	9.9	0.33
9662.7	1034.9	82.3	-10	10.2	0.36
9667.4	1034.4	92.1	-10	10.4	0.4
9660.5	1035.1	0.2	0	8.8	0.22
9662.8	1034.9	3.5	0	9	0.23
9667.8	1034.4	10.8	0	9.3	0.27
9665.5	1034.6	53.2	0	9.8	0.33
9670.2	1034.1	68.1	0	10.1	0.37
9675.1	1033.6	78.7	0	10.4	0.4
9670	1034.1	0.4	10	8.9	0.24
9674.6	1033.6	5.5	10	9.2	0.27
9672.8	1033.8	40	10	9.8	0.33
9677.5	1033.3	54.3	10	10	0.36
9682.6	1032.8	65.9	10	10.3	0.4
9680.4	1033	0.5	20	9.1	0.26
9686.9	1032.3	6.1	20	9.4	0.3
9680.3	1033	27.1	20	9.7	0.33
9685.2	1032.5	42.1	20	10	0.37
9690.3	1032	52.8	20	10.3	0.4
9692.2	1031.8	0.4	30	9.3	0.29
9688.5	1032.2	16.8	30	9.7	0.34
9692.9	1031.7	29.2	30	9.9	0.37
9695.9	1031.4	35.6	30	10.1	0.38
9698.1	1031.1	39.7	30	10.2	0.4
9703.4	1030.6	46.3	30	10.5	0.43
9699.6	1031	29.1	35	10.1	0.38
9708	1030.1	40.4	35	10.5	0.43
9694.2	1031.5	0.4	40	9.6	0.32
9700.4	1030.9	16.9	40	9.9	0.36
9703.2	1030.6	22	40	10	0.38
9705.9	1030.3	27.1	40	10.2	0.4
9711.6	1029.7	34.9	40	10.4	0.43
9700	1030.9	0.8	45	9.6	0.34
9707.2	1030.2	16.1	45	10	0.38
9715.9	1029.2	29.4	45	10.4	0.43

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9705.9	1030.3	0.8	50	9.7	0.35
9710.9	1029.8	10.6	50	10	0.38
9713.7	1029.5	15.5	50	10.1	0.4
9719.3	1028.9	23.7	50	10.4	0.43
9711.8	1029.7	0.5	55	9.8	0.36
9723.5	1028.4	18.9	55	10.4	0.43

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

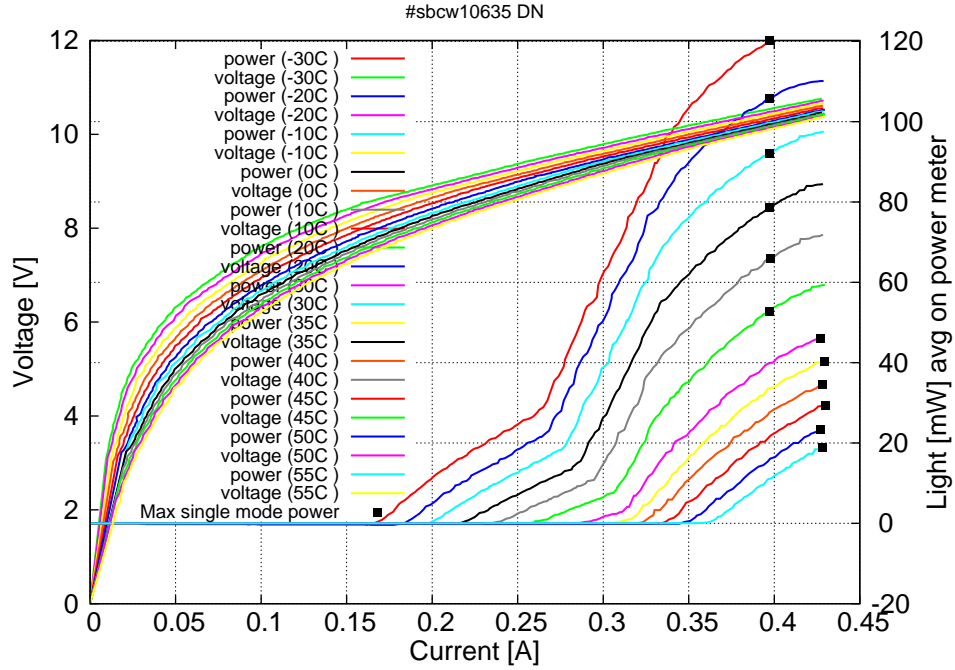


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

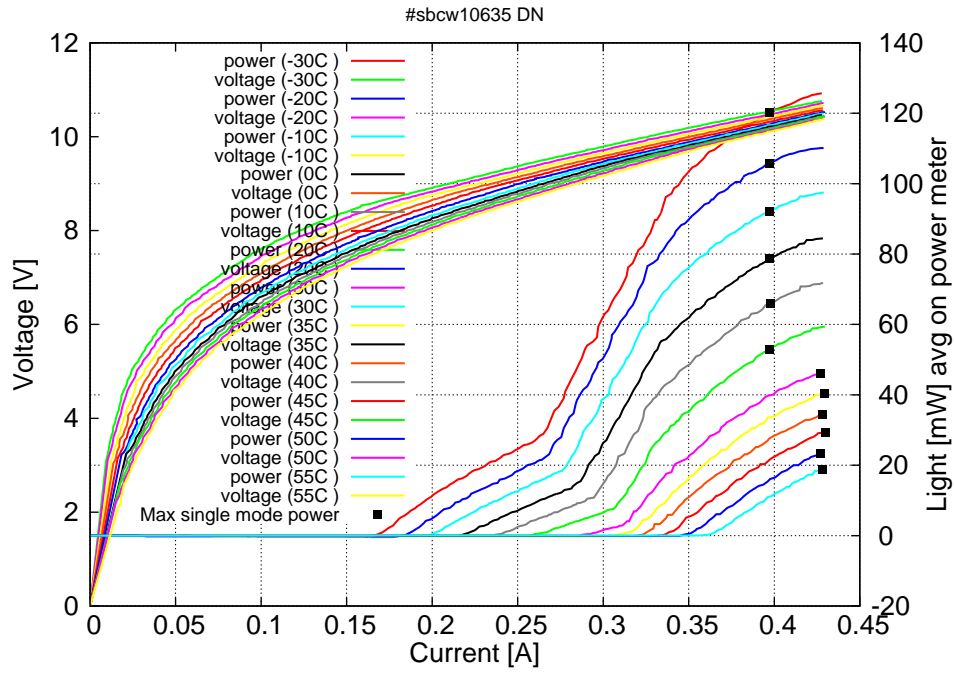


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -30C: $I_{th}=0.16A$ / $V_{th}=8.6V$ (2-wires measurements). Maximum operation current: 0.4A between -30C and 20C, 0.43A between 30C and 55C.

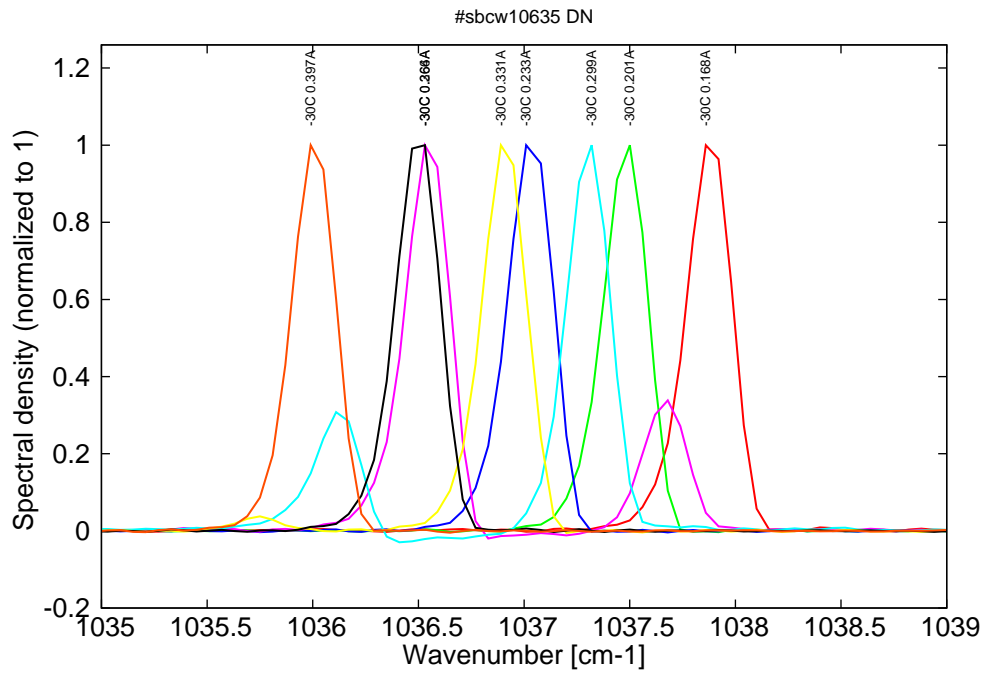


Figure 6: spectra at -30C for various DC currents (monomode on mode 1 up to 0.235A, then bimode, then again monomode on mode 2 for $I \geq 0.33A$)

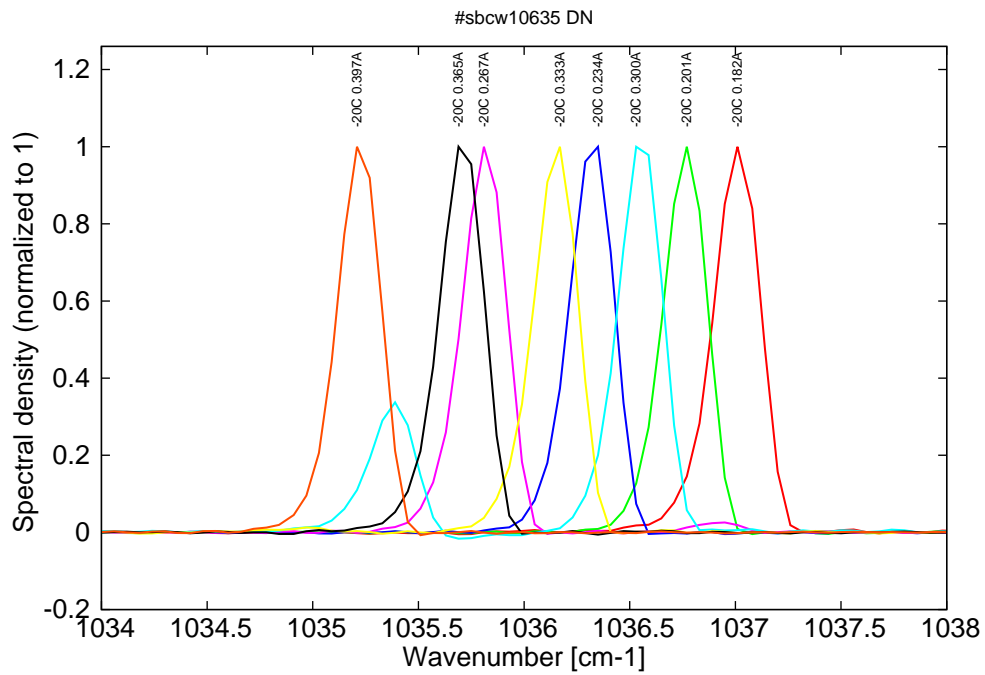


Figure 7: spectra at -20C for various DC currents (monomode on mode 1 up to 0.235A, then bimode, then again monomode on mode 2 for $I \geq 0.33A$)

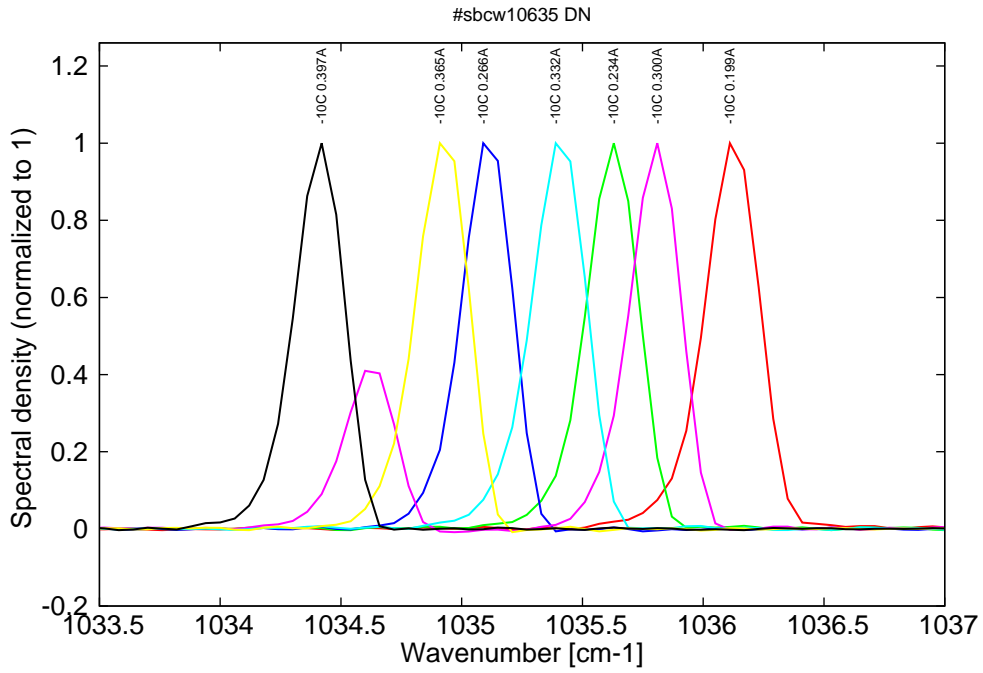


Figure 8: spectra at -10C for various DC currents (monomode on mode 1 up to 0.27A, then bimode, then again monomode on mode 2 for $I \geq 0.33A$)

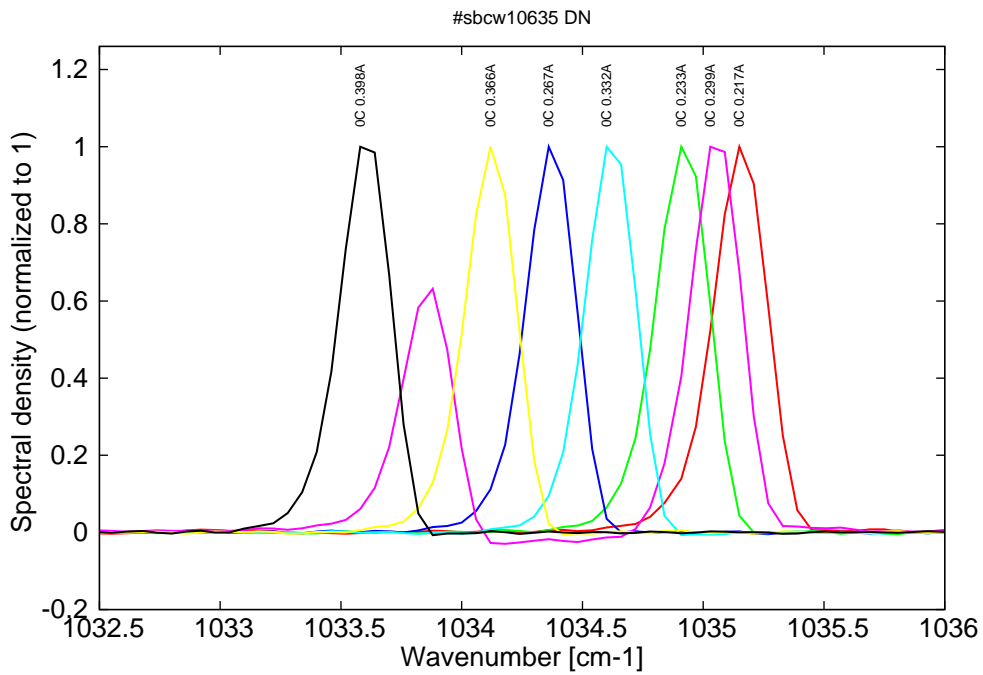


Figure 9: spectra at 0C for various DC currents (monomode on mode 1 up to 0.27A, then bimode, then again monomode on mode 2 for $I \geq 0.33A$)

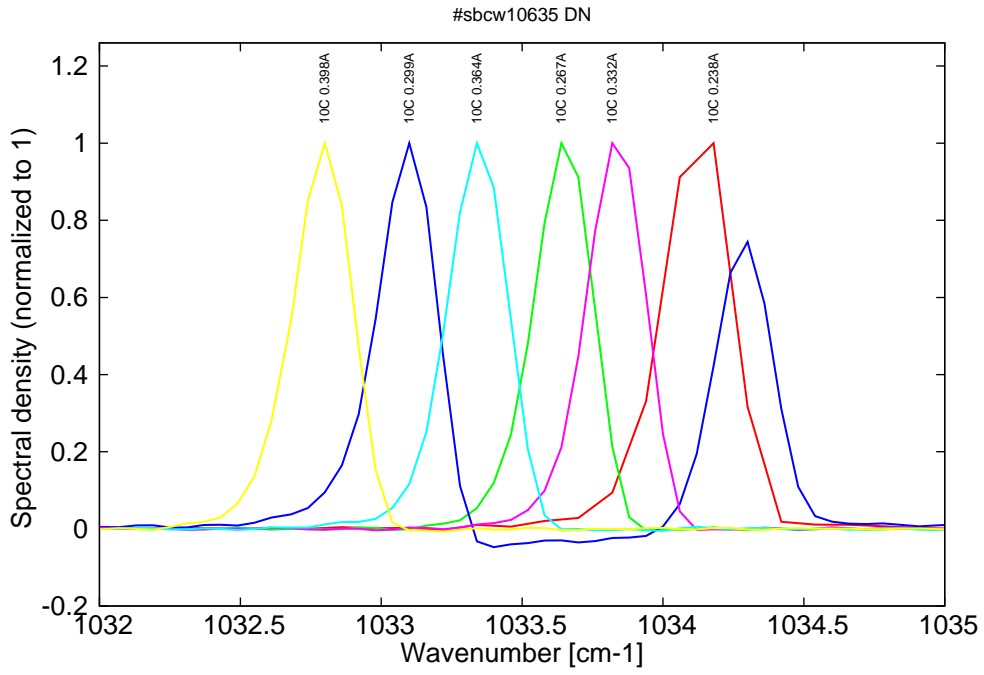


Figure 10: spectra at 10C for various DC currents (monomode on mode 1 up to 0.27A, then bimode, then again monomode on mode 2 for $I \geq 0.33A$)

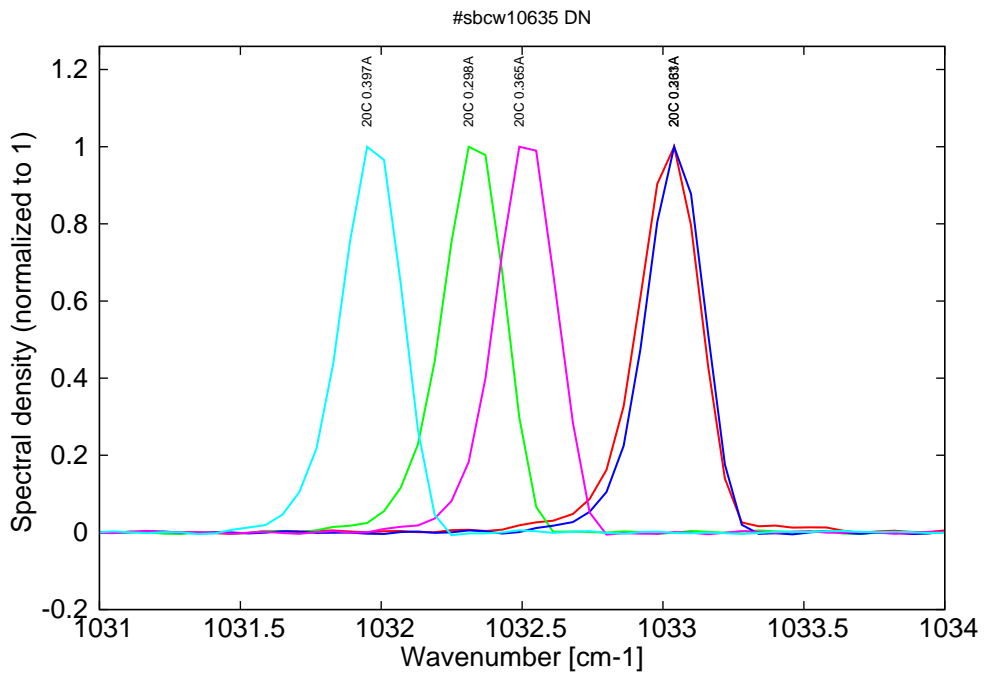


Figure 11: spectra at 20C for various DC currents (monomode on mode 1 up to 0.3A, then monomode on mode 2)

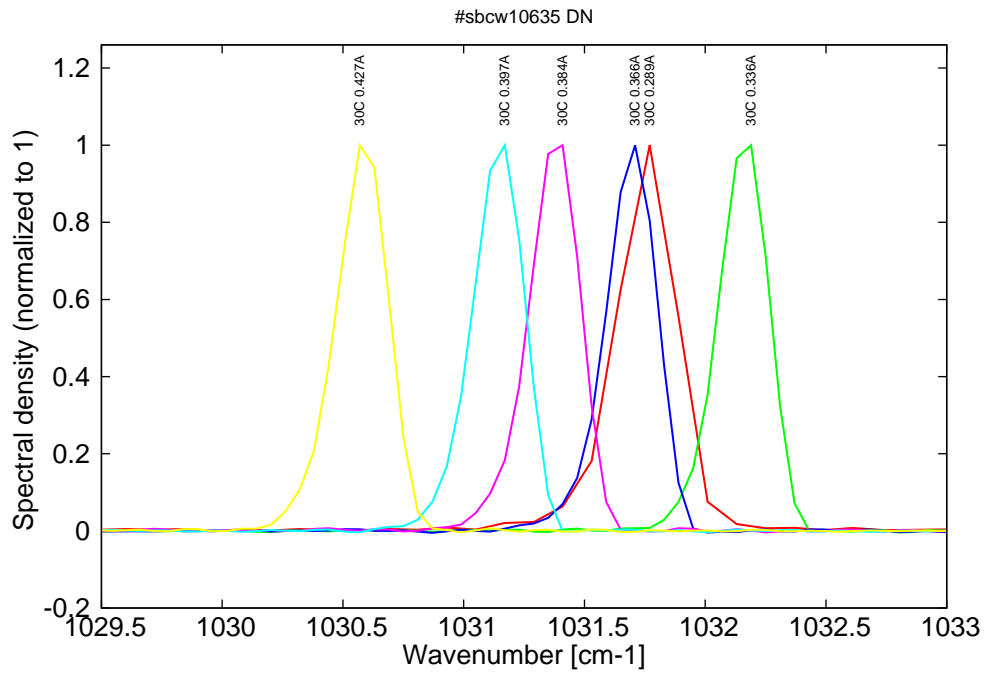


Figure 12: spectra at 30C for various DC currents (monomode on mode 1 up to 0.29A, then monomode on mode 2)

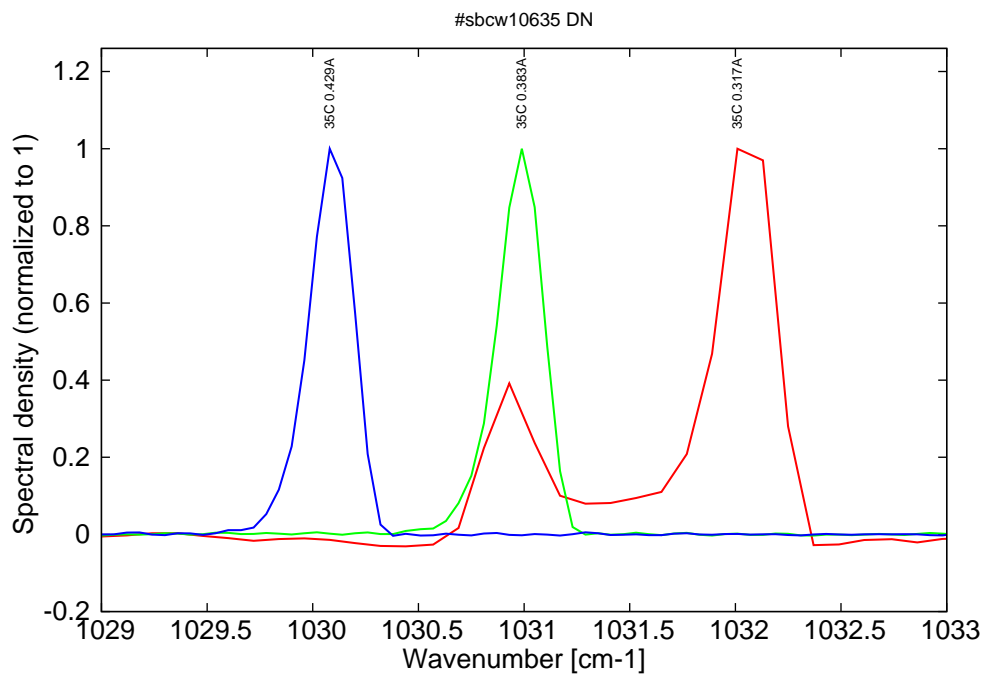


Figure 13: spectra at 35C for various DC currents (bimode at threshold, then monomode on mode 2)

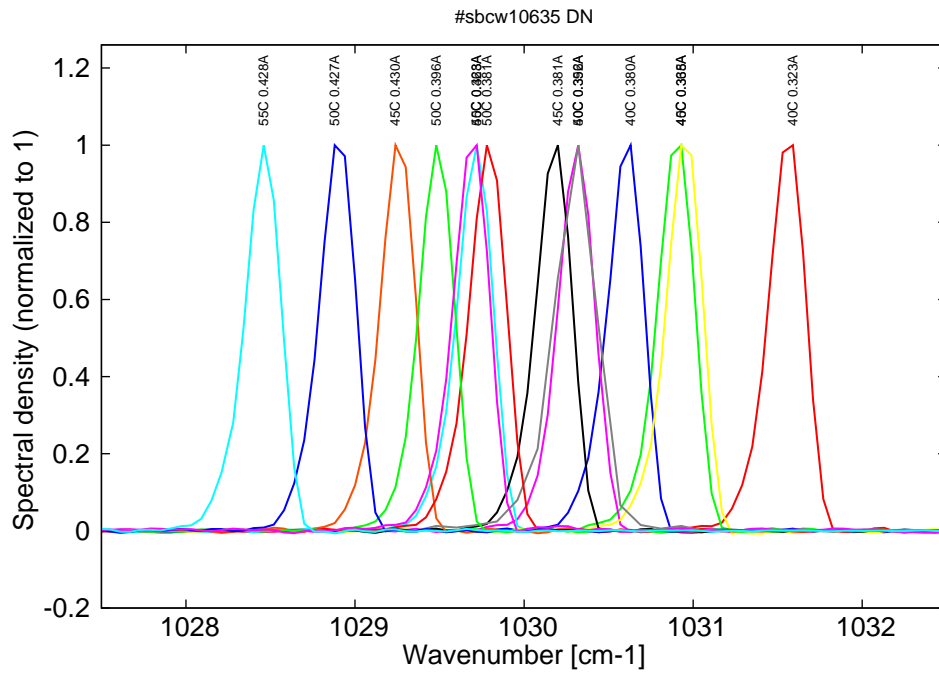


Figure 14: spectra between 40C and 55C for various DC currents (all monomode on mode 2)