

Colour	m	$n_i$	Left Deg	Left Min	Right Deg	Right Min	$\theta$	$\lambda$ (nm)	$1/\lambda$ ( $m^{-1}$ )	$(1/4 - 1/n_i^2)$	$R$ ( $m^{-1}$ )
Violet	1	5	193	42	223	50	<b>15.07</b>	433.24	2308200	0.2100	$(1.0991 \pm 0.0012) \times 10^7$
Turquoise	1	4	191	45	225	30	<b>16.88</b>	483.81	2066937	0.1875	$(1.1024 \pm 0.0011) \times 10^7$
Red	1	3	185	30	231	47	<b>23.14</b>	655.01	1526695	0.1389	$(1.0992 \pm 0.0007) \times 10^7$
Violet	2	5	177	26	239	56	<b>31.25</b>	432.31	2313149	0.2100	$(1.1015 \pm 0.0005) \times 10^7$
Turquoise	2	4	173	5	244	45	<b>35.83</b>	487.86	2049777	0.1875	$(1.0932 \pm 0.0004) \times 10^7$
Red	2	3	156	44	260	26	<b>51.85</b>	655.33	1525948	0.1389	$(1.0987 \pm 0.0003) \times 10^7$
Violet	3	5	157	19	259	26	<b>51.06</b>	432.10	2314260	0.2100	$(1.1020 \pm 0.0003) \times 10^7$

Average  $R = (1.0995 \pm 0.0003) \times 10^7$

Error from Literature Value = 0.19 %

$R$  from graph =  $(1.0997 \pm 0.0012) \times 10^7$

Error from Literature Value = 0.21 %

All code can be found on my GitHub profile.

GitHub Username: TheReconPilot

Repository: IISER-Labs

Link: <https://github.com/TheReconPilot/IISER-Labs/tree/master/PHY%20222/Rydberg%20Constant>

Error analysis using Python's *uncertainties* package

Graph plotted using *matplotlib* and *scipy*

