

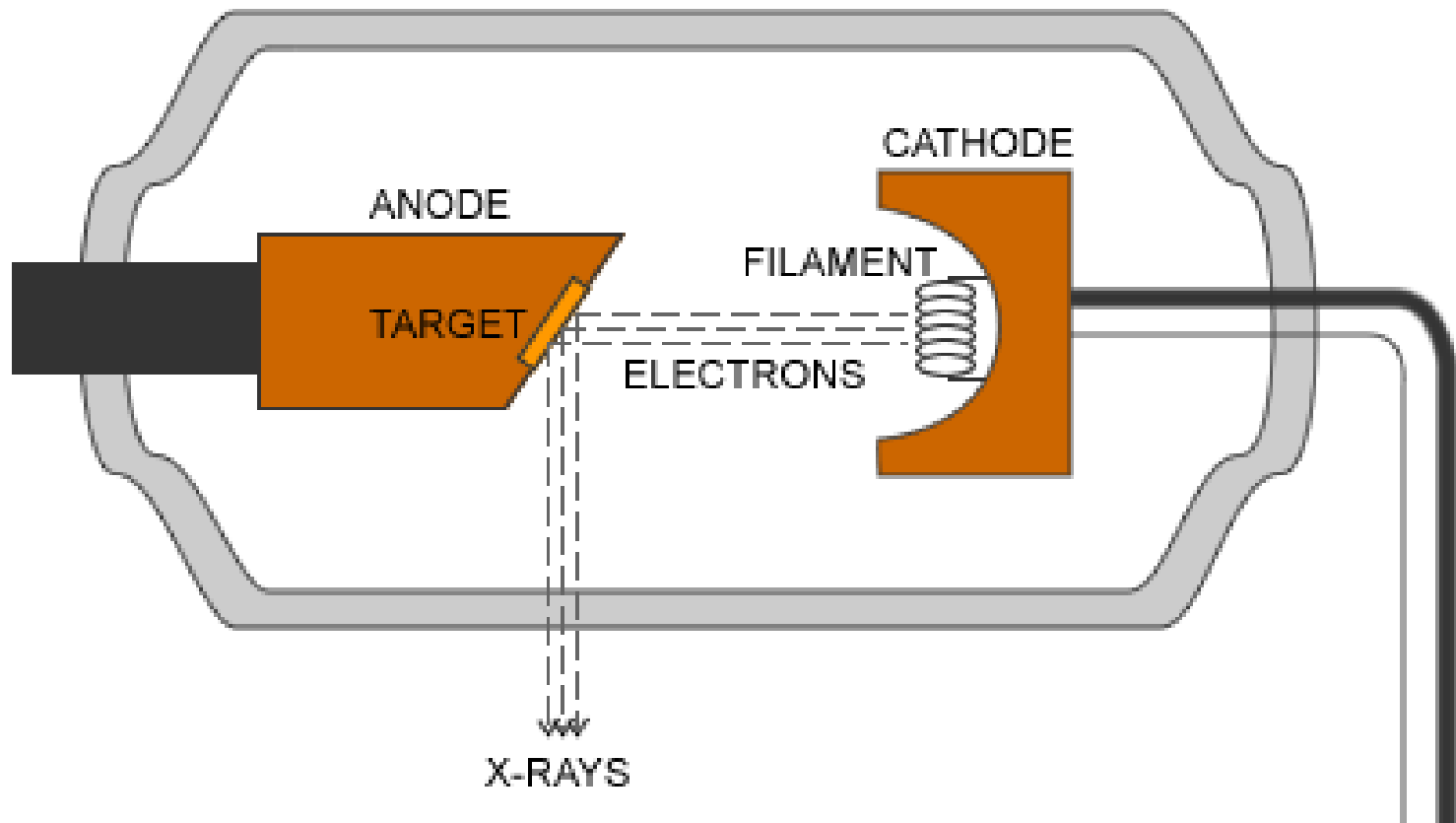
The top of the slide features several faint, light-gray diagrams. On the left, a circle is divided into three sectors by three lines meeting at the center. To its right is a simple circle. Further right is another circle. On the far right, a circle is divided into four sectors by four lines meeting at the center, with two of these lines ending in arrows pointing outwards. A partial circle is visible on the extreme right edge.

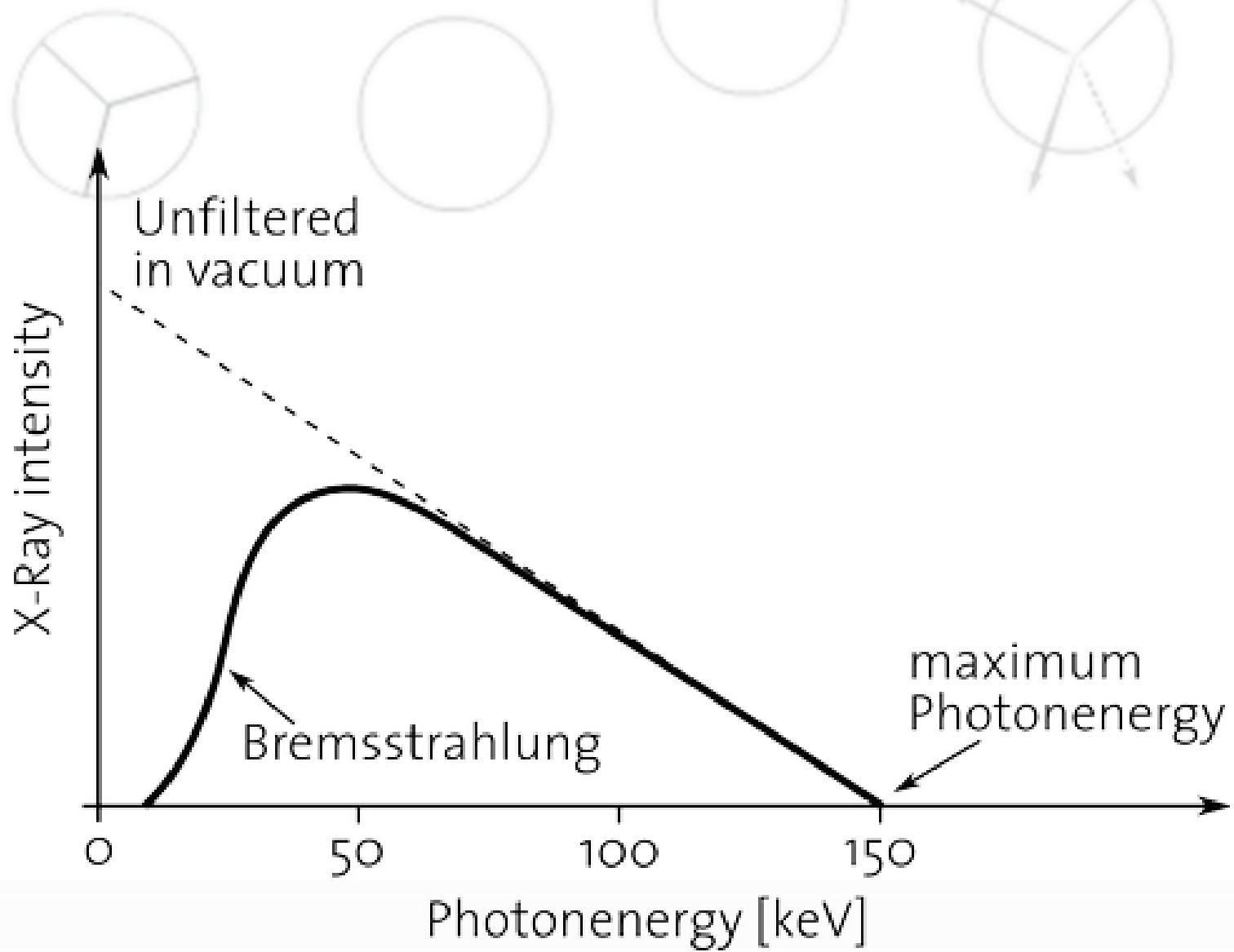
Zavorno sevanje, spektri

Tomaž Urbič

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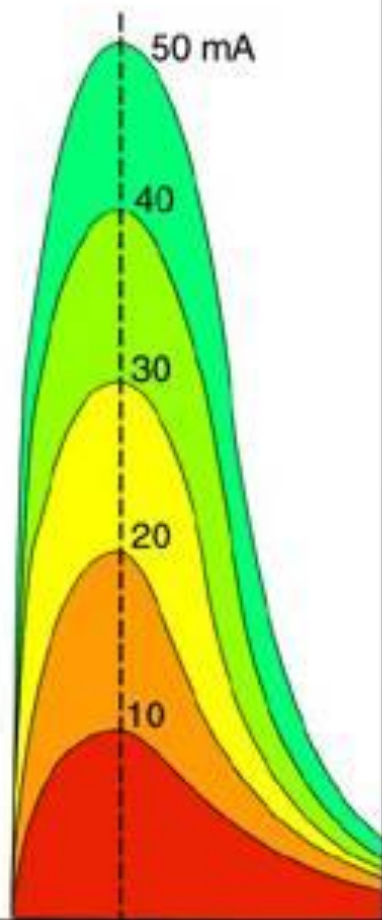
www.fkkt.uni-lj.si



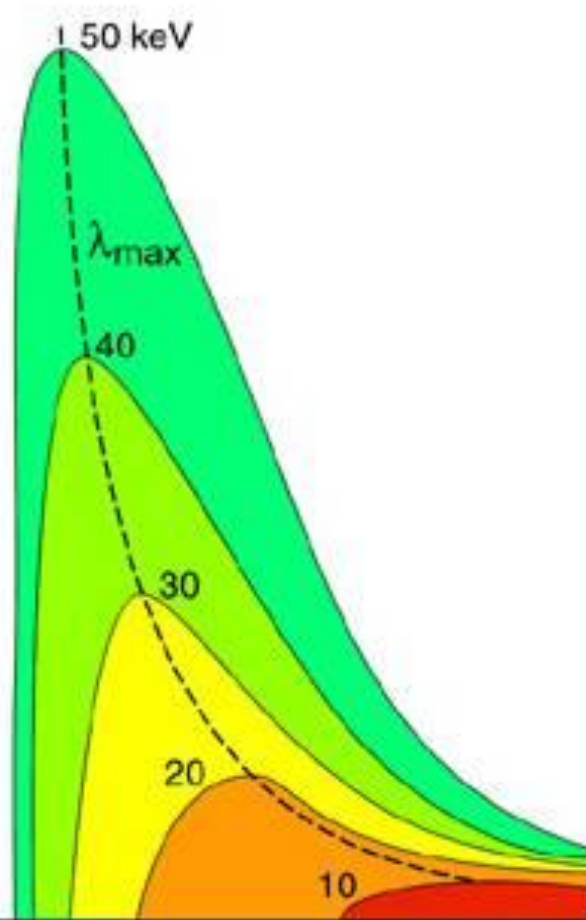


Relative Intensity

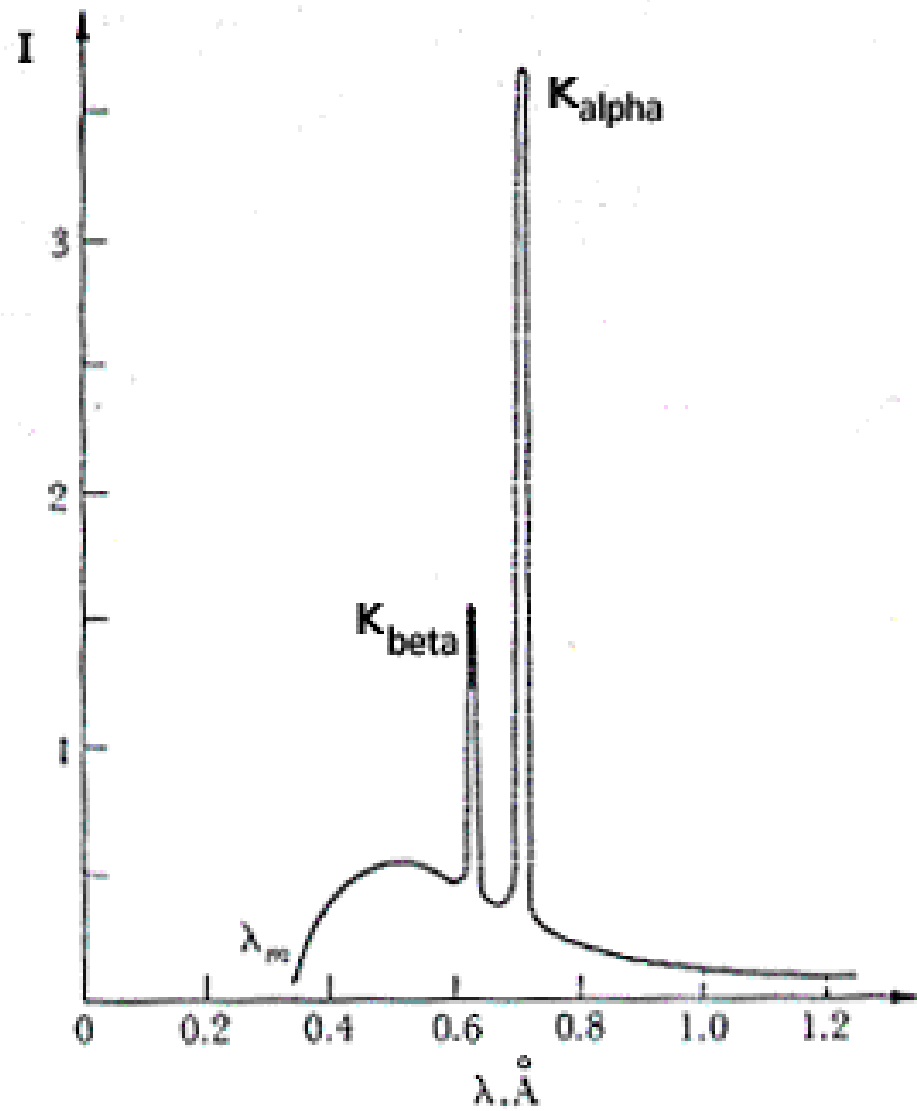
a) U and Z constant;
changing i / mA

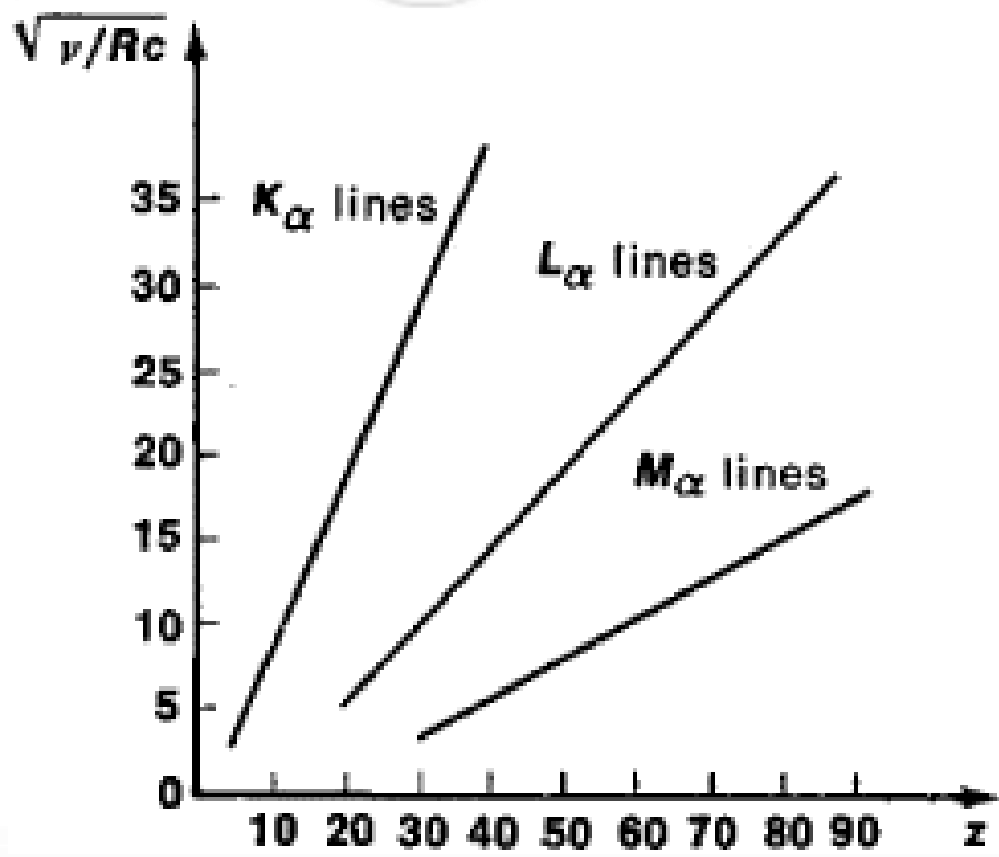


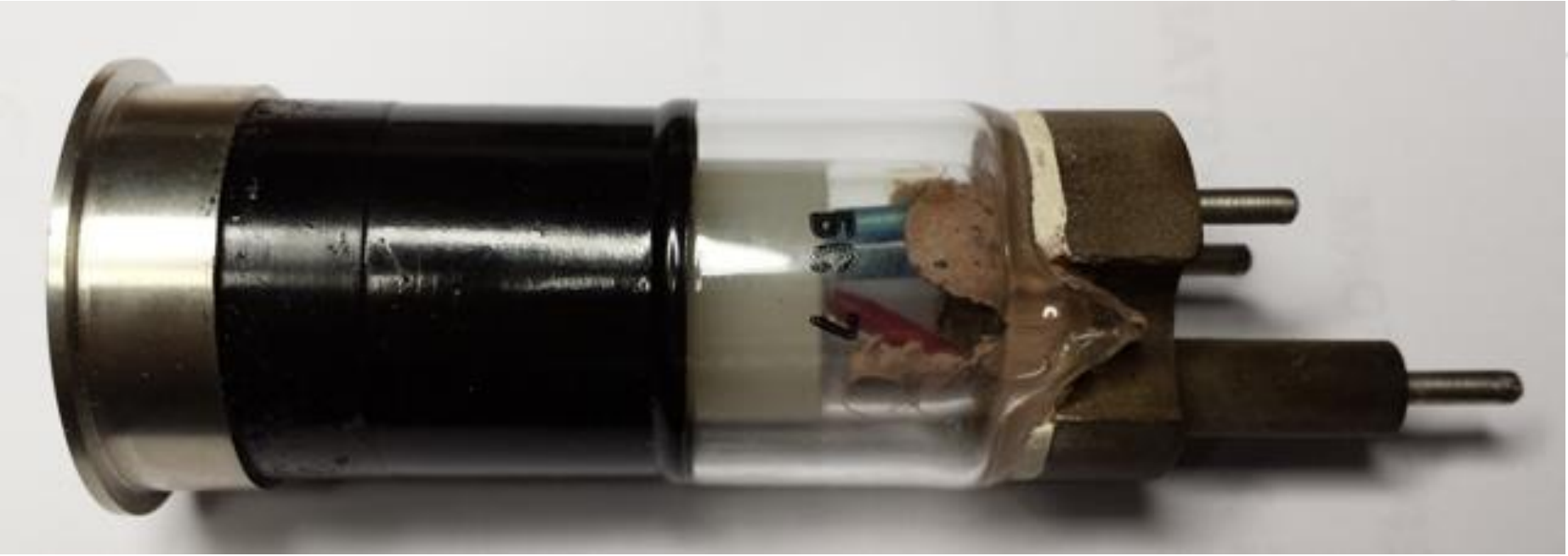
b) Z and i constant;
changing U / kV

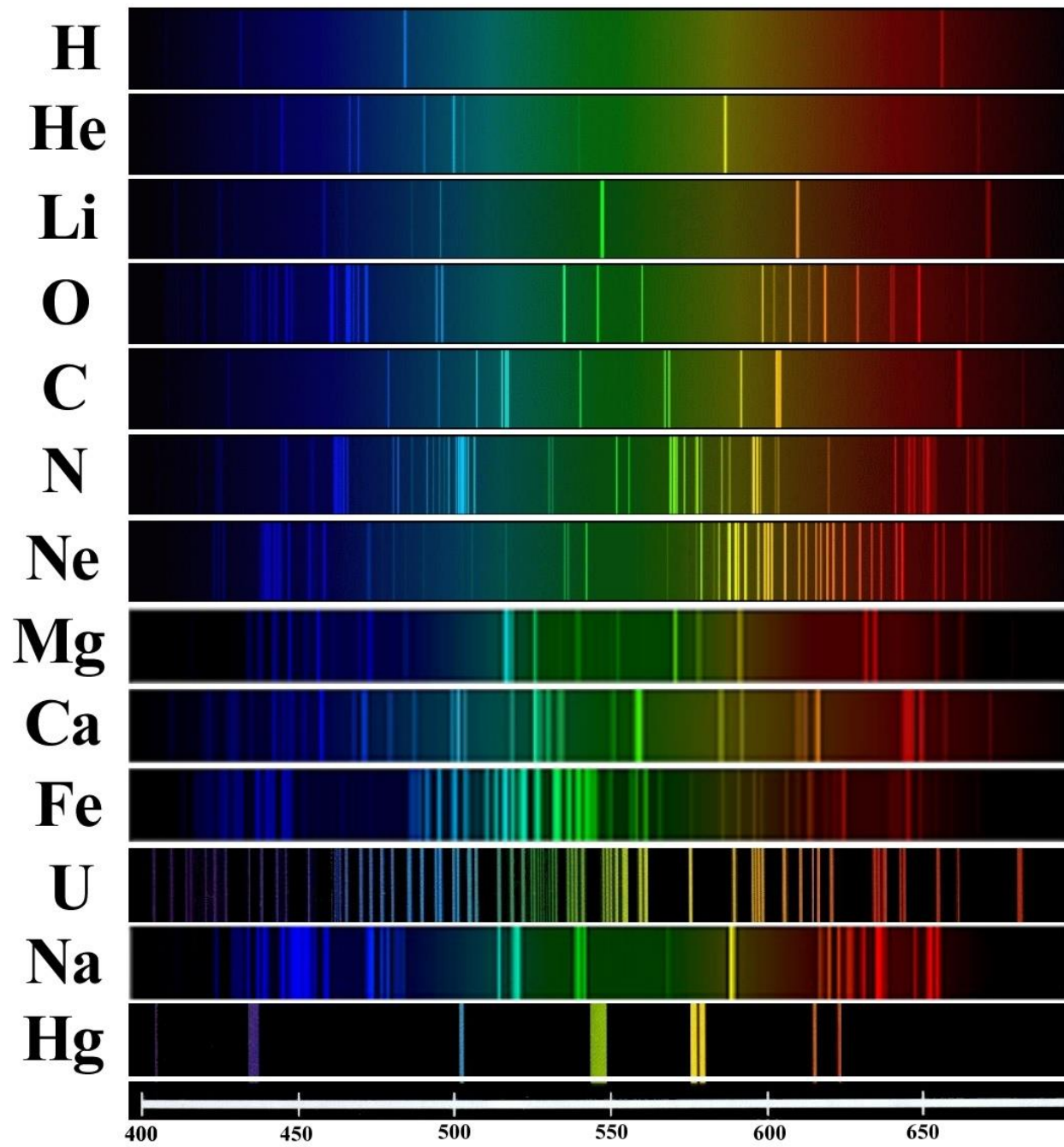


Wavelength (λ)

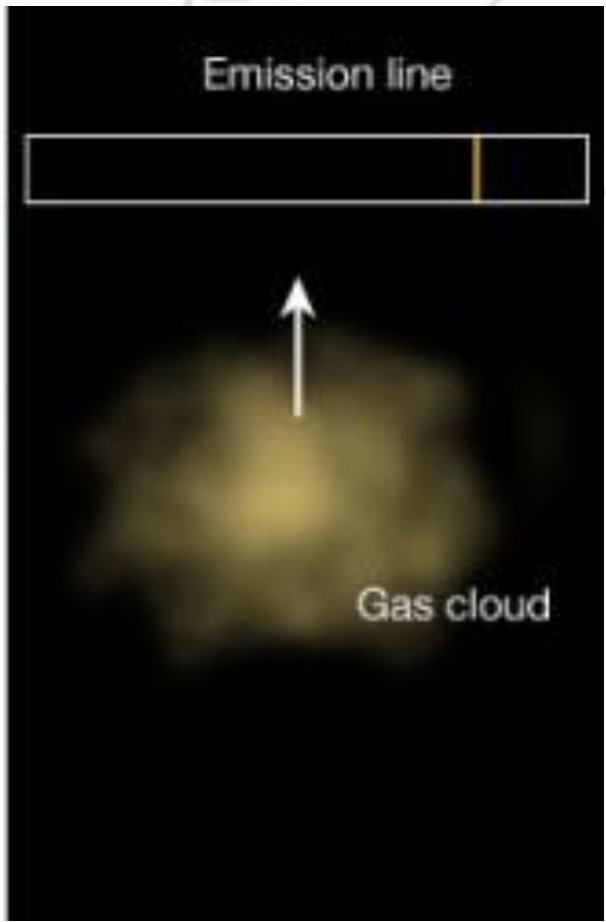
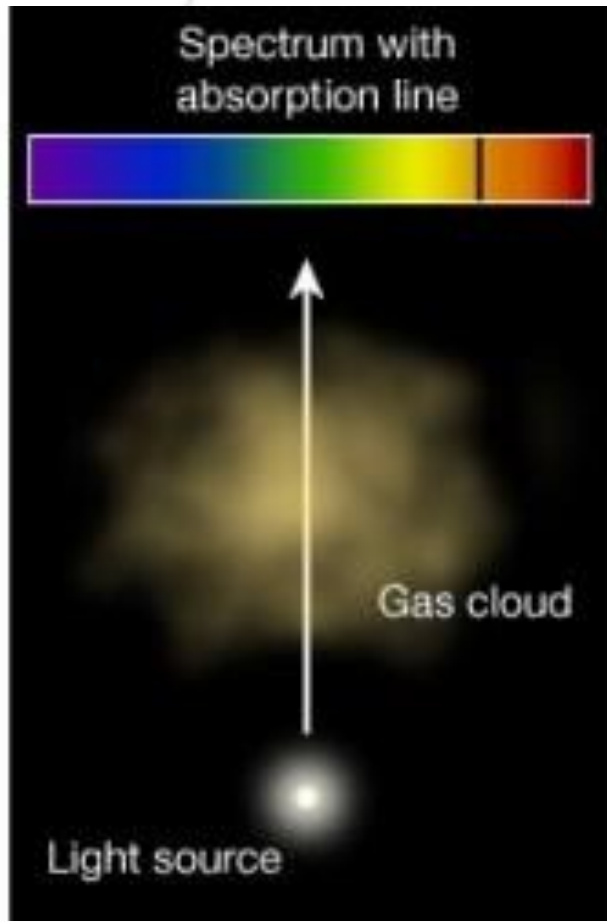
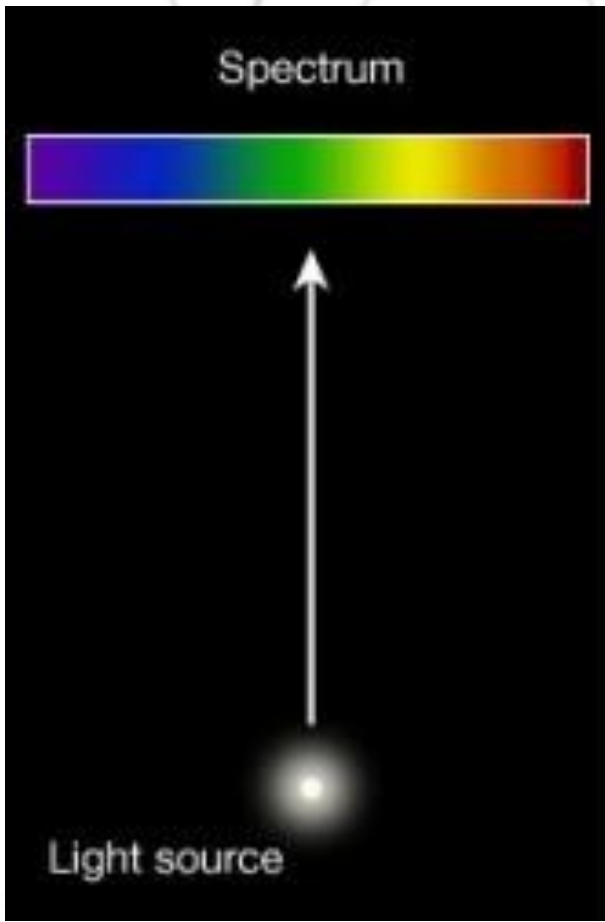


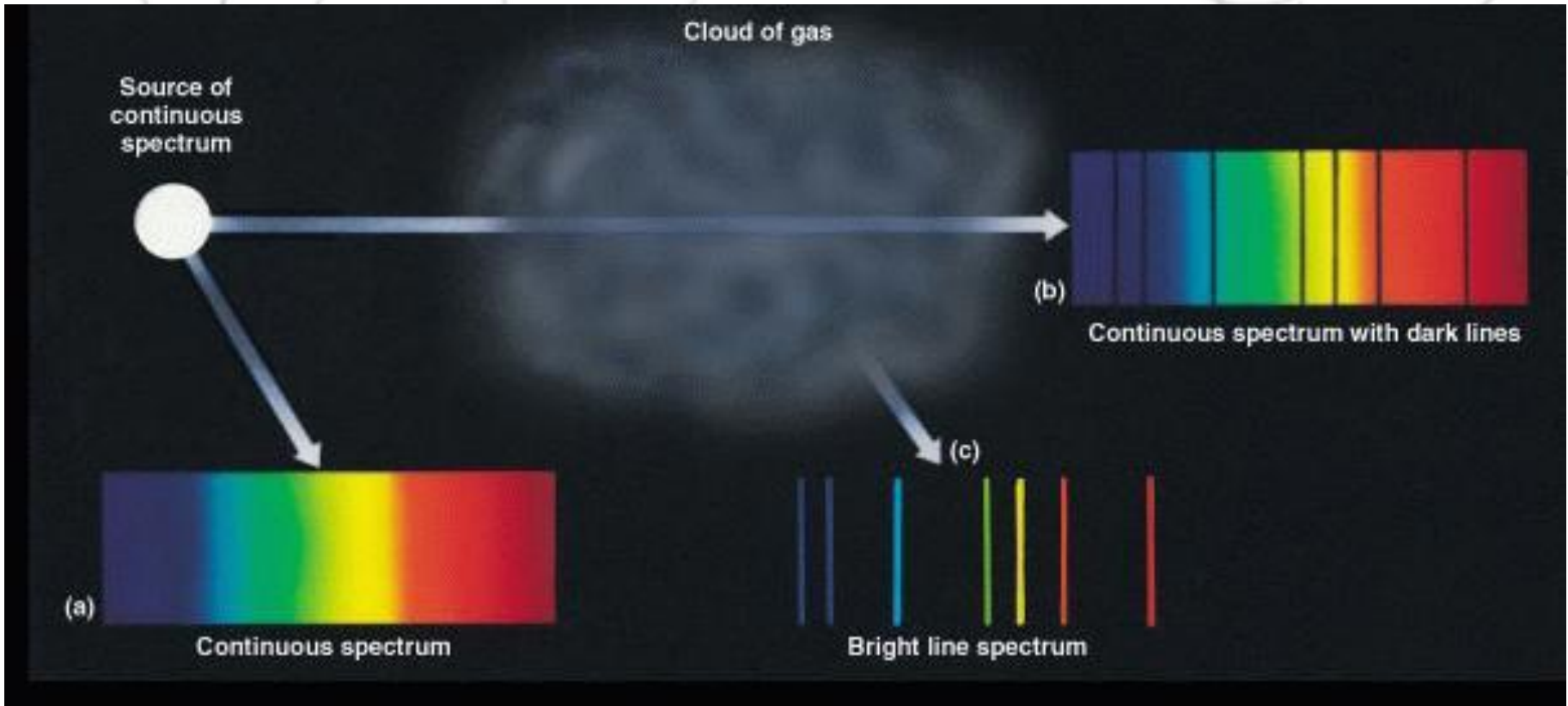






Wavelength (nm)





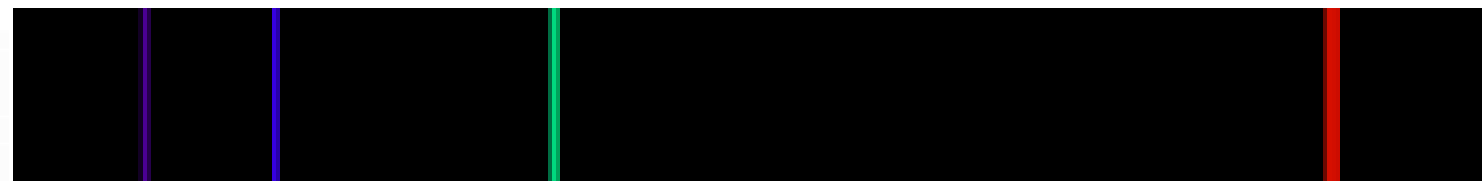
Continuous Spectrum

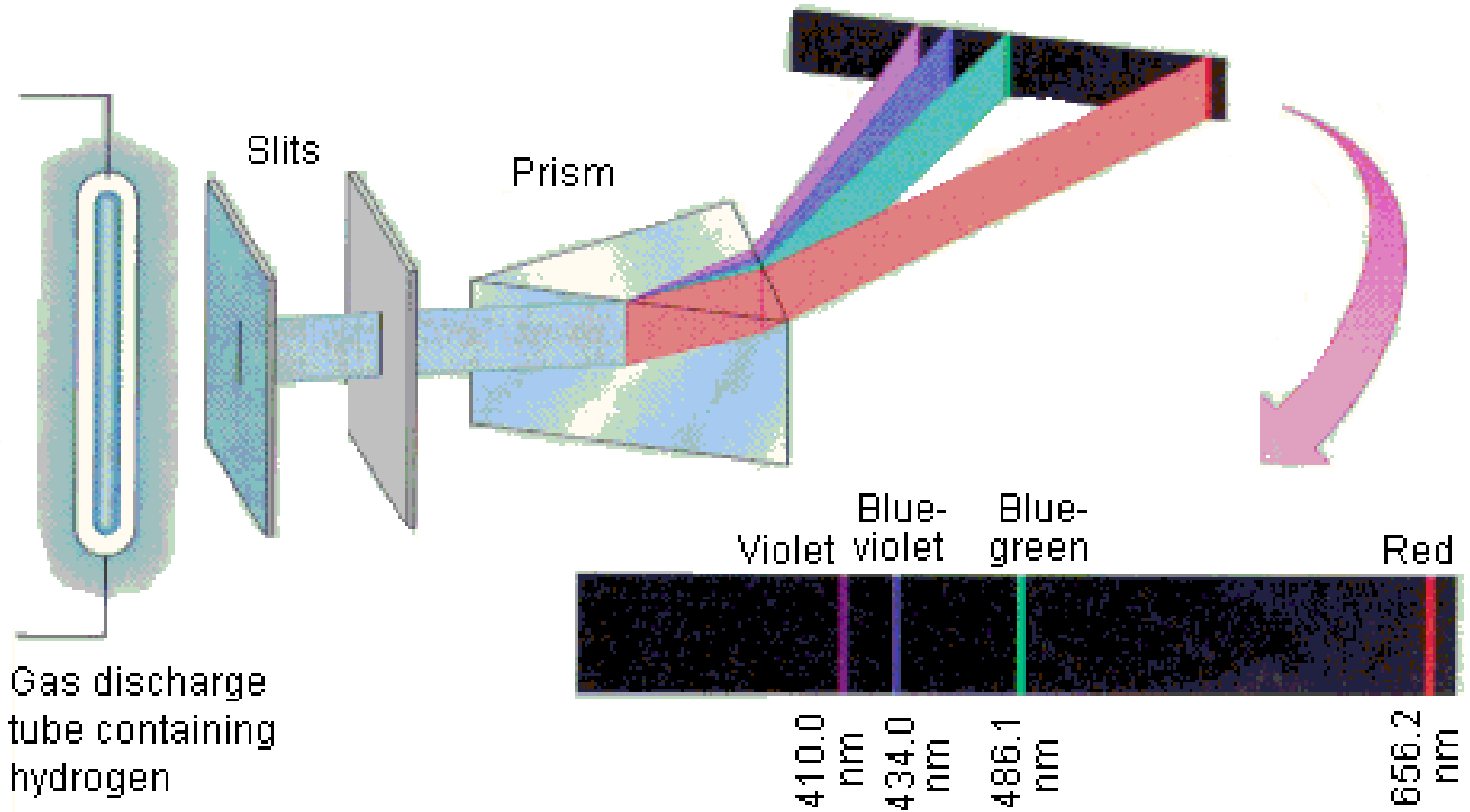


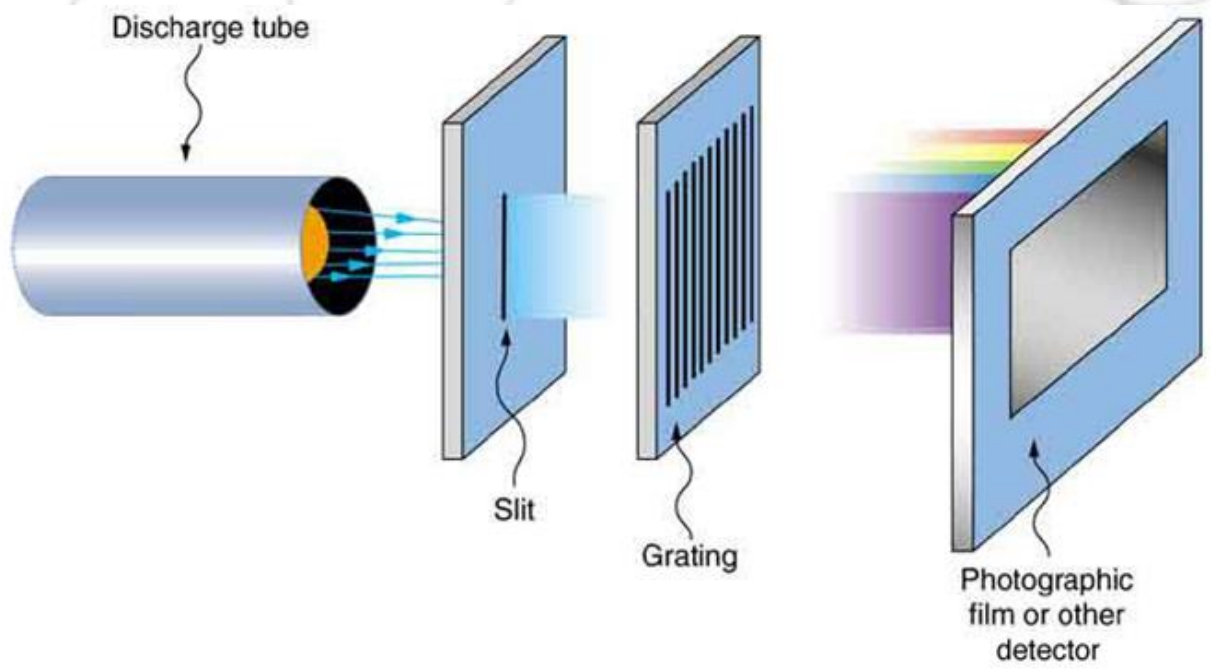
Absorption Spectrum



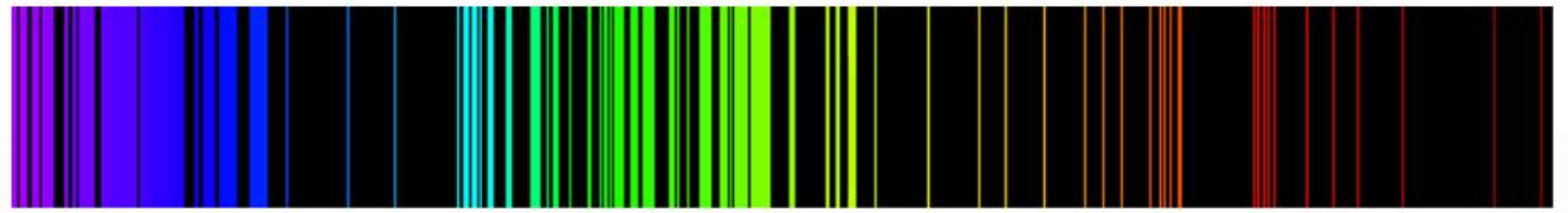
Emission Spectrum







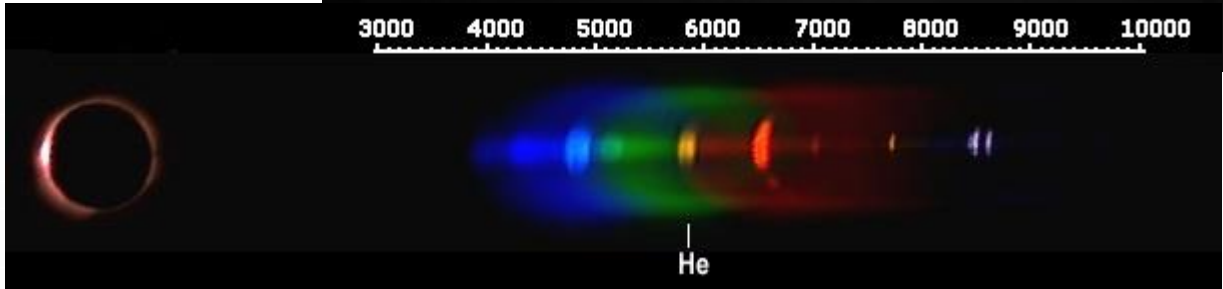
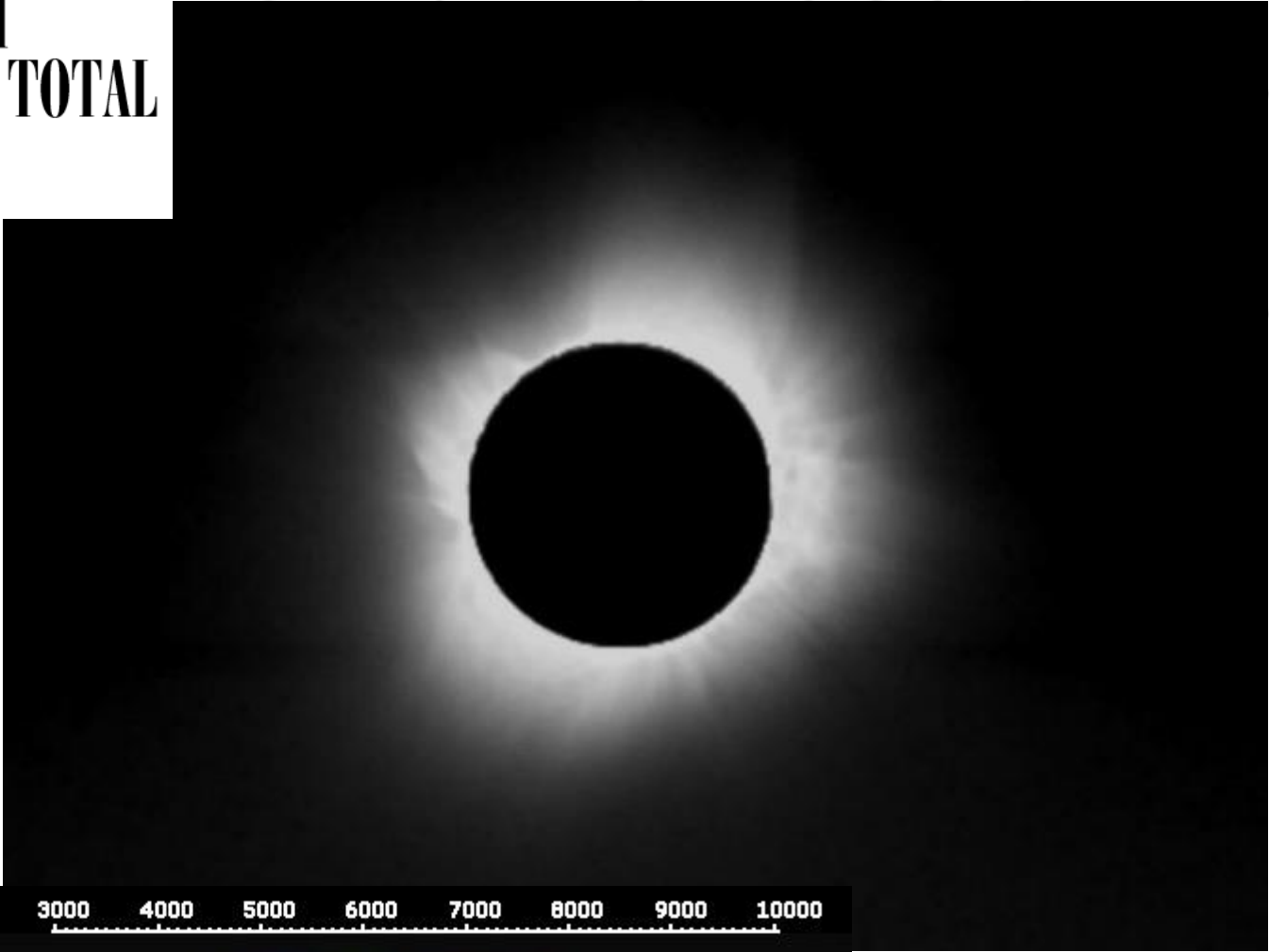
(a)

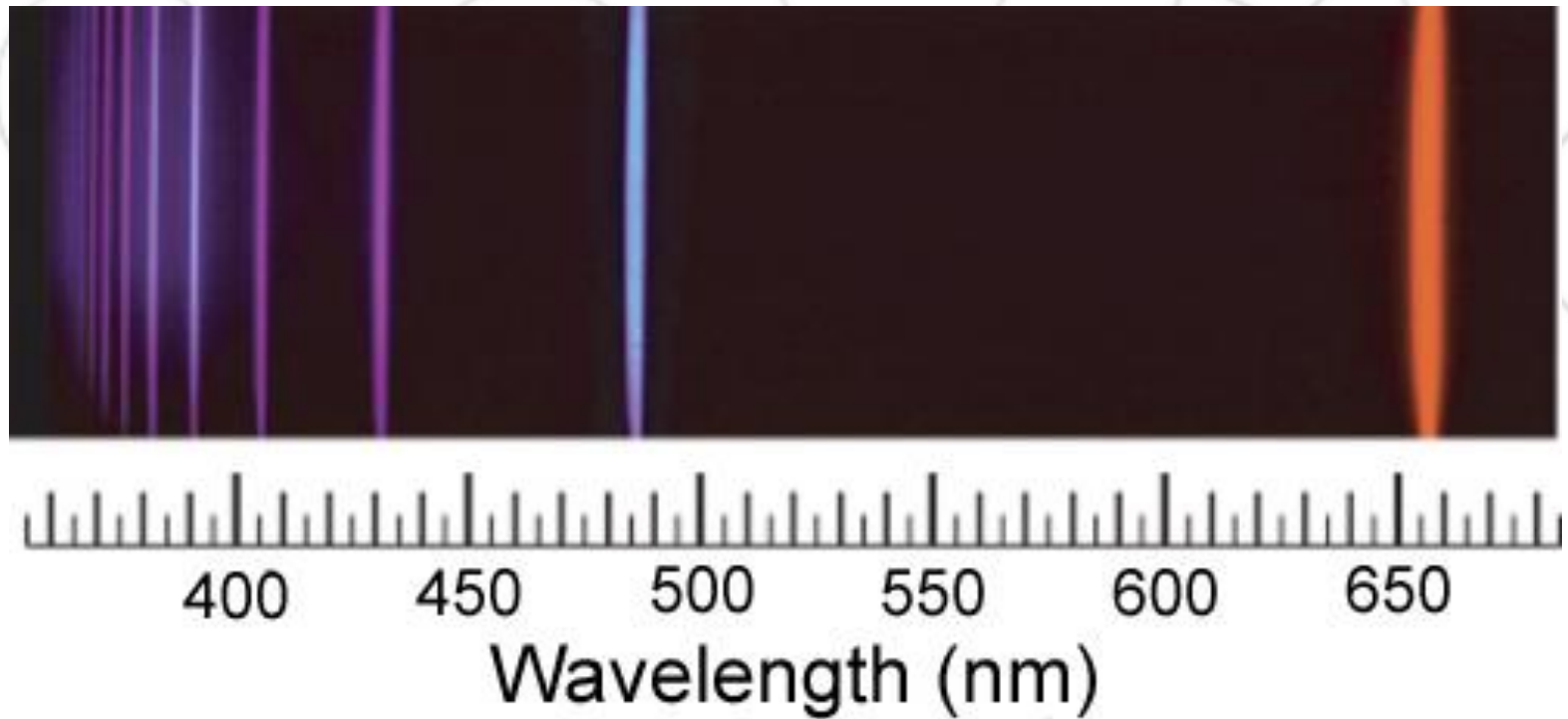


(b)



**AUG. 18, 1868: HELIUM
DISCOVERED DURING TOTAL
SOLAR ECLIPSE**





Balmerjeva serija v vidnem spektru

Transition of n	3→2	4→2	5→2	6→2	7→2	8→2	9→2	∞ →2
Name	H- α / Ba- α	H- β / Ba- β	H- γ / Ba- γ	H- δ / Ba- δ	H- ϵ / Ba- ϵ	H- ζ / Ba- ζ	H- η / Ba- η	
Wavelength (nm) ^[2]	656.3	486.1	434.1	410.2	397.0	388.9	383.5	364.6
Color	Red	Aqua	Violet	Violet	(Ultraviolet)	(Ultraviolet)	(Ultraviolet)	(Ultraviolet)

$$\lambda = b \left(\frac{n^2}{n^2 - 4} \right)$$

$$\frac{1}{\lambda} = R_H \left(\frac{1}{2^2} - \frac{1}{n^2} \right) \quad \text{for } n = 3, 4, 5, \dots$$

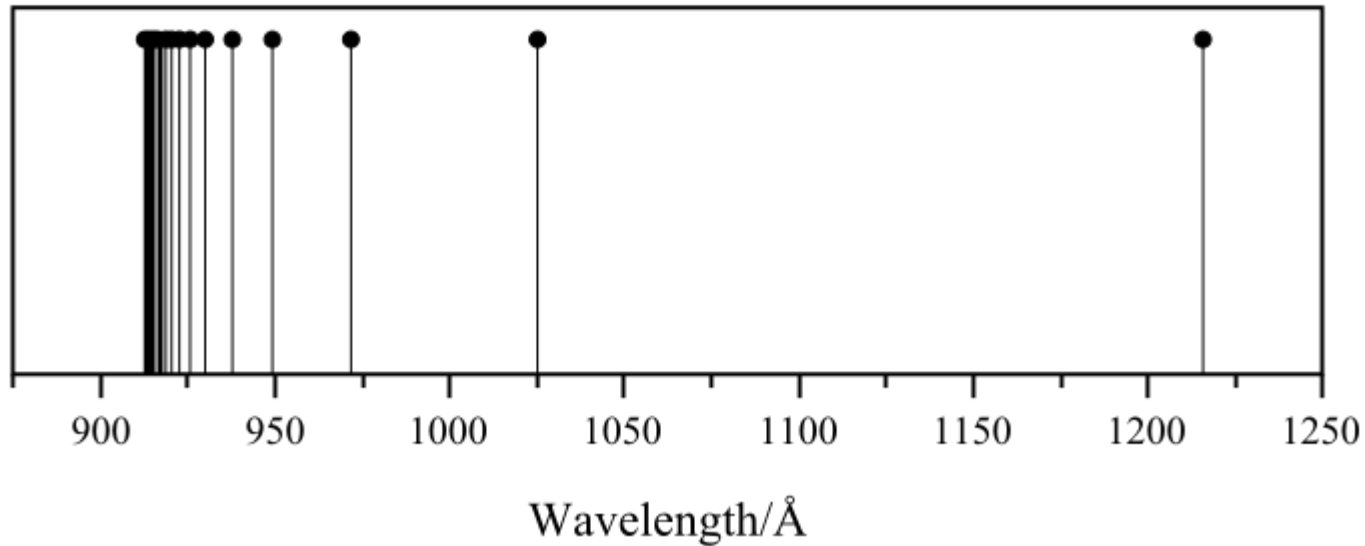
$$\frac{1}{\lambda} = R_H \left[\frac{1}{n_1^2} - \frac{1}{n_2^2} \right]$$

n_1 and n_2 are integers and $n_2 > n_1$

Rydberg Constant for H
= 1.0974×10^{-2} nm

Lymanova serija v UV spektru ($n=1$)

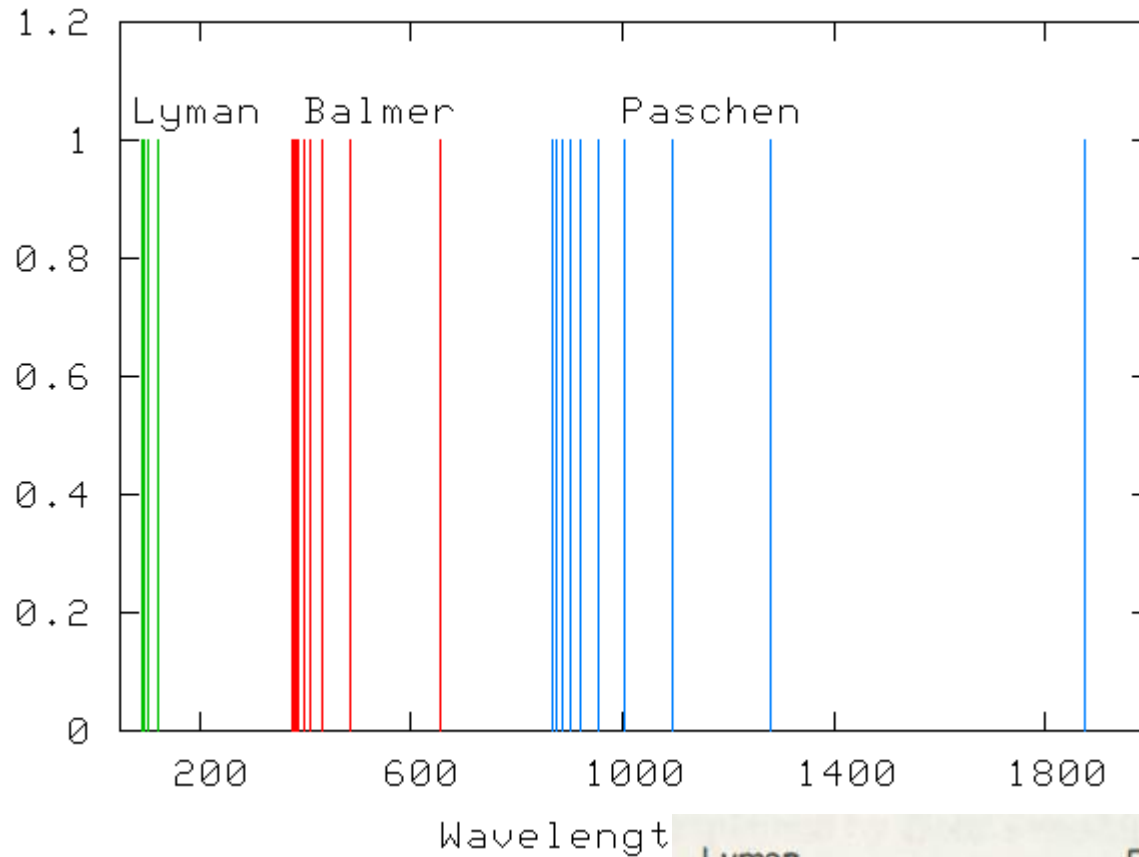
Limit 912 Å ... Ly- γ 972 Å Ly- β 1026 Å Lyman- α 1216 Å

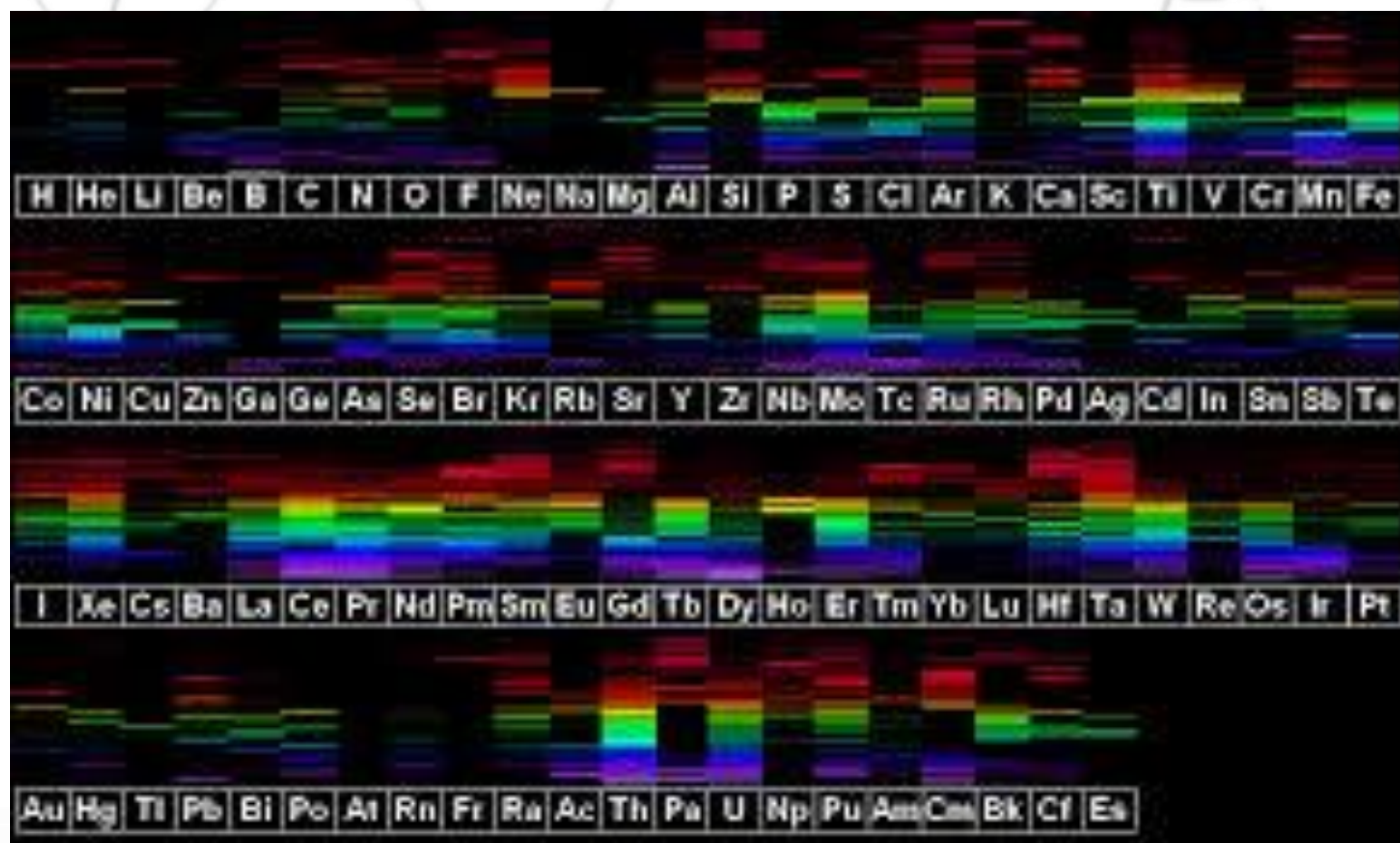


n	2	3	4	5	6	7	8	9	10	11	∞ , the Lyman limit
Wavelength (nm)	121.6	102.6	97.3	95.0	93.8	93.1	92.6	92.3	92.1	91.9	91.18

Paschenova serija v IR spektru (n=3)
Brackettova serija v IR spektru (n=4)

Spectrum of hydrogen







Hvala za pozornost.



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