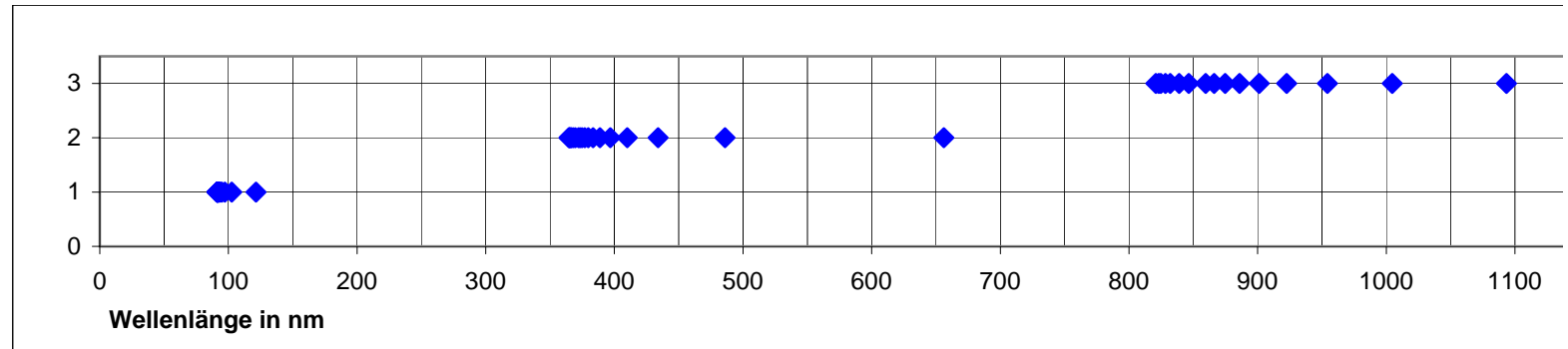


Wasserstoffspektrum nach dem Bohrschen Atommodell

$c = 3,000000E+08 \text{ ms}^{-1}$
 $e = 1,602177E-19 \text{ C}$
 $m_e = 9,104600E-31 \text{ kg}$
 $\epsilon_0 = 8,854190E-12 \text{ CV}^{-1}\text{m}^{-1}$
 $h = 6,621800E-34 \text{ Js}$
 $h = 4,135700E-15 \text{ eVs}$



Energieniveau

$$E_n = \frac{-m_e \cdot e^4}{8 \cdot \epsilon_0^2 \cdot h^2} \cdot \frac{1}{n^2}$$

n	E _n	1. Lyman-Serie (ultraviolett)			2. Balmer-Serie (uv-sichtbar)			3. Paschen-Serie (infrarot)		
		E _n -E ₁	f _{n1}	λ _{n1}	E _n -E ₂	f _{n2}	λ _{n2}	E _n -E ₃	f _{n3}	λ _{n3}
1	-13,616103 eV									
2	-3,404026 eV	10,21 eV	2,47E+15 Hz	121 nm						
3	-1,512900 eV	12,10 eV	2,93E+15 Hz	103 nm	1,89 eV	4,57E+14 Hz	656 nm			
4	-0,851006 eV	12,77 eV	3,09E+15 Hz	97 nm	2,55 eV	6,17E+14 Hz	486 nm	0,66 eV	1,60E+14 Hz	1874 nm
5	-0,544644 eV	13,07 eV	3,16E+15 Hz	95 nm	2,86 eV	6,91E+14 Hz	434 nm	0,97 eV	2,34E+14 Hz	1281 nm
6	-0,378225 eV	13,24 eV	3,20E+15 Hz	94 nm	3,03 eV	7,32E+14 Hz	410 nm	1,13 eV	2,74E+14 Hz	1093 nm
7	-0,277880 eV	13,34 eV	3,23E+15 Hz	93 nm	3,13 eV	7,56E+14 Hz	397 nm	1,24 eV	2,99E+14 Hz	1005 nm
8	-0,212752 eV	13,40 eV	3,24E+15 Hz	93 nm	3,19 eV	7,72E+14 Hz	389 nm	1,30 eV	3,14E+14 Hz	954 nm
9	-0,168100 eV	13,45 eV	3,25E+15 Hz	92 nm	3,24 eV	7,82E+14 Hz	383 nm	1,34 eV	3,25E+14 Hz	923 nm
10	-0,136161 eV	13,48 eV	3,26E+15 Hz	92 nm	3,27 eV	7,90E+14 Hz	380 nm	1,38 eV	3,33E+14 Hz	901 nm
11	-0,112530 eV	13,50 eV	3,27E+15 Hz	92 nm	3,29 eV	7,96E+14 Hz	377 nm	1,40 eV	3,39E+14 Hz	886 nm
12	-0,094556 eV	13,52 eV	3,27E+15 Hz	92 nm	3,31 eV	8,00E+14 Hz	375 nm	1,42 eV	3,43E+14 Hz	875 nm
13	-0,080569 eV	13,54 eV	3,27E+15 Hz	92 nm	3,32 eV	8,04E+14 Hz	373 nm	1,43 eV	3,46E+14 Hz	866 nm
14	-0,069470 eV	13,55 eV	3,28E+15 Hz	92 nm	3,33 eV	8,06E+14 Hz	372 nm	1,44 eV	3,49E+14 Hz	860 nm
17	-0,047115 eV	13,57 eV	3,28E+15 Hz	91 nm	3,36 eV	8,12E+14 Hz	370 nm	1,47 eV	3,54E+14 Hz	846 nm
20	-0,034040 eV	13,58 eV	3,28E+15 Hz	91 nm	3,37 eV	8,15E+14 Hz	368 nm	1,48 eV	3,58E+14 Hz	839 nm
25	-0,021786 eV	13,59 eV	3,29E+15 Hz	91 nm	3,38 eV	8,18E+14 Hz	367 nm	1,49 eV	3,61E+14 Hz	832 nm
30	-0,015129 eV	13,60 eV	3,29E+15 Hz	91 nm	3,39 eV	8,19E+14 Hz	366 nm	1,50 eV	3,62E+14 Hz	828 nm
40	-0,008510 eV	13,61 eV	3,29E+15 Hz	91 nm	3,40 eV	8,21E+14 Hz	365 nm	1,50 eV	3,64E+14 Hz	825 nm
50	-0,005446 eV	13,61 eV	3,29E+15 Hz	91 nm	3,40 eV	8,22E+14 Hz	365 nm	1,51 eV	3,64E+14 Hz	823 nm
100	-0,001362 eV	13,61 eV	3,29E+15 Hz	91 nm	3,40 eV	8,23E+14 Hz	365 nm	1,51 eV	3,65E+14 Hz	821 nm