Force of Time — Hydrogen Spectral Data

Energy, Wavelength and E/λ Ratio — Lyman, Balmer, Paschen Series

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FOT Constants: E_ion = 13.60488960 eV · hc_FOT = 1239.74556480 eV·nm · eV_B = $1.602459772\times10^{-19}$ J · N_A_FOT = 6.018910362×10^{23} mol^{-1}

Lyman Series (→ n=1, Ultraviolet)

Transition	Energy (eV)	Wavelength (nm)	E / Wavelength (eV/nm)
n=2 → 1	10.236672	121.5854204	0.0841932524995
n=3 → 1	12.09432542	102.5969468	0.1178819233634
n=4 → 1	12.754584	97.26833631	0.1311278107950
n=5 → 1	13.060611609	95.04682264	0.1374123957670
inf → 1	13.60488960	91.12500000	0.1492992000000

Balmer Series (→ n=2, Visible / Near-UV)

Transition	Energy (eV)	Wavelength (nm)	E / Wavelength (eV/nm)
n=3 → 2	1.889738346	656.56127	0.0028782360952
n=4 → 2	2.551146767	486.3416815	0.0052455852830
n=5 → 2	2.864530734	434.2937684	0.0065958366028
n=6 → 2	3.023581354	410.3507937	0.0073682844055
inf → 2	3.40122224	364.7562611	0.0093246438861

Paschen Series (→ n=3, Infrared)

Transition	Energy (eV)	Wavelength (nm)	E / Wavelength (eV/nm)
n=4 → 3	0.6610025191	1876.14908	0.0003523187609
n=5 → 3	0.967458816	1282.34623	0.0007544443095
n=6 → 3	1.133843008	1094.268783	0.0010361649949
inf → 3	1.511790677	820.7015875	0.0018420711011

E / wavelength computed at full floating-point precision from exact FOT values. Units: eV/nm. Lyman limit = 91.125 nm = 729/8 (FOT exact). Balmer limit = 364.5 nm = $3^6/2$ (FOT exact). Option B electron volt: eV_B = $1.602459772\times10^{-19}$ J. Stephen Daubney, Force of Time, 2026.