ON PHOTOEFECT

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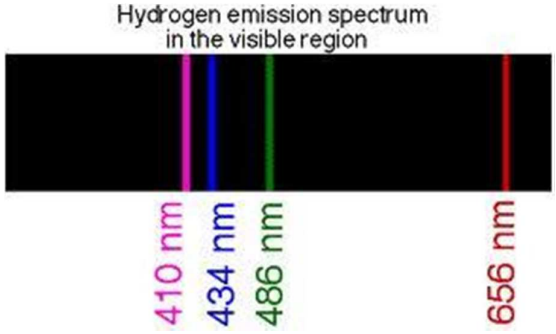
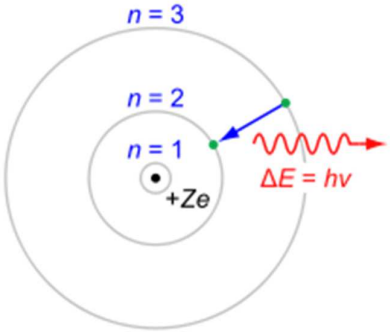
Abstract: In this article are calculations consistent with experiment.

Traditionally, Halpha: E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Spectral line Halfa 656.281 + - 1.4 nm



http://en.wikipedia.org/wiki/Balmer_series :



1.Introduction

Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

E2 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 3,4 eV

E1 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 1,51 eV
BEISER p.74 EXPERIMENT 0.13 – 0.48 Angstrom

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 50 keV

[ln |1-v/c|+ (v/c) / (1-v/c)]=50 keV/511 keV = 50/511 = 0.09784735812

v/c =0.3376925

1-v/c = 0.6623075

ln |1-v/c|= -0.41202532938
(v/c) / (1-v/c) = 0.5098726799862602
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0978473506062602

……
Wave
v/c = 0.3376925

1+v/c = 1.3376925

ln |1+v/c|= 0.2909461146
(v/c) / (1+v/c) = 0.2524440407642265
[ln |1+v/c|- (v/c) / (1+v/c)]= 0.0385020738357735
T e kin ad =0,510998928 MeV * [ln |1+v/c|- (v/c) / (1+v/c)]=
T e kin ad = 511keV*0.0385020738357735 = 19.6745597300802585 keV

Values of *h*	Units	Ref.
6.626070040(81)×10−34	J·s	[1]
4.135667662(25)×10−15	eV·s	

T e kin ad = h*f
f= 19674.5597300802585 eV / 4.135667662 ×10−15
f = 4757.28741716e+15 Hz
Lambda = c/f = 299792458/ 4757.28741716e+15 Hz

Lambda = **0.630175206397 Angstrom**

0.726348 A/2 pí = 0.115601874604912 A which is consistent with experiment !!
BEISER p.74 EXPERIMENT 0.13 – 0.48 A

The energy of a photon with angular frequency $\omega = 2\pi f$ is given by
T e kin ad = h škrt* ω

Values of *h*	Units	Ref.
6.626070040(81)×10−34	J·s	[1]
4.135667662(25)×10−15	eV·s	[2]

2π	EP·tP	
Values of $\hbar$ (h-bar)	Units	Ref.
1.054571800(13)×10−34	J·s/rad	[2]
6.582119514(40)×10−16	eV·s/rad	[2]
1	EP·tP/rad	
Values of hc	Units	Ref.
1.98644568×10−25	J·m	
1.23984193	eV·μm	
2π	EP·ℓP	
Values of $\hbar c$	Units	Ref.
3.16152649×10−26	J·m	
0.19732697	eV·μm	
1	EP·ℓP	

……..

v/c =0.3376924

1-v/c = 0.6623076

ln |1-v/c|= -0.41202517839
(v/c) / (1-v/c) = 0.5098724520147436
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0978472736247436
……..

v/c =0.3376923

1-v/c = 0.6623077

ln |1-v/c|= -0.4120250274
(v/c) / (1-v/c) = 0.5098722240432959
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0978471966432959
……..

v/c =0.3376901

1-v/c = 0.6623099

ln |1-v/c|= -0.41202170569
(v/c) / (1-v/c) = 0.509867208688863
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.097845502998863
……..

v/c =0.33769

1-v/c = 0.66231

ln |1-v/c|= -0.4120215547
(v/c) / (1-v/c) = 0.5098669807189987
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0978454260189987
……..

v/c =0.33758

1-v/c = 0.66242

ln |1-v/c|= -0.41185548313
(v/c) / (1-v/c) = 0.5096162555478397
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0977607724178397
……...

v/c =0.33701

1-v/c = 0.66299

ln |1-v/c|= -0.41099537186
(v/c) / (1-v/c) = 0.5083183758427729
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0973230039827729
……...

v/c =0.337

1-v/c = 0.663

ln |1-v/c|= -0.41098028879
(v/c) / (1-v/c) = 0.5082956259426848
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0973153371526848
……...

v/c =0.33

1-v/c = 0.67

ln |1-v/c|= -0.40047756659
(v/c) / (1-v/c) = 0.4925373134328358
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0920597468428358
……...

v/c =0.34

1-v/c = 0.66

ln |1-v/c|= -0.41551544396
(v/c) / (1-v/c) = 0.5151515151515152
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0996360711915152
……...

v/c =0.35

1-v/c = 0.65

ln |1-v/c|= -0.43078291609
(v/c) / (1-v/c) = 0.5384615384615385
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.1076786223715385
…….
T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 40 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=40 keV/511 keV = 40/511 =0.07827788649

v/c =0.3

1-v/c =0.7

ln |1-v/c|= -0.35667494393

(v/c) / (1-v/c) = 0.4285714285714286
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0718964846414286
……
v/c =0.31

1-v/c = 0.69

ln |1-v/c|= -0.37106368139
(v/c) / (1-v/c) =0.4492753623188406
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0782116809288406
……
v/c =0.3101

1-v/c = 0.6899

ln |1-v/c|= -0.37120861943
(v/c) / (1-v/c) = 0.4494854326714017
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0782768132414017
……
v/c =0.310101

1-v/c = 0.689899

ln |1-v/c|= -0.37121006891
(v/c) / (1-v/c) = 0.4494875336824666

[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0782774647724666

40/511 =0.07827788649

……

Wave

v/c =0.310101

1+v/c = 1.310101

ln |1+v/c|= 0.27010423347

(v/c) / (1+v/c) = 0.2367000712158834

[ln |1+v/c|- (v/c) / (1+v/c)]=0.0334041622541166

T e kin ad =0,510998928 MeV * [ln |1+v/c|- (v/c) / (1+v/c)]=

T e kin ad = 511keV*0.0334041622541166 = 17.0695269118535826 keV

Values of *h*	Units	Ref.
6.626070040(81)×10−34	J·s	[1]
4.135667662(25)×10−15	eV·s	

T e kin ad = h*f

f=17069.5269118535826 eV / 4.135667662 ×10−15

f = 4127.3932788880806835e+15 Hz

Lambda = c/f = 299792458/ 4127.3932788880806835e+15 Hz

Lambda =0.0000000000726348 m = 0.726348 A = 0.0726348 nm

0.726348 A/2 pí = 0.115601874604912 Angstrom

which is consistent with experiment !!

BEISER p.74 EXPERIMENT 0.13 – 0.48 A

The energy of a photon with angular frequency $\omega = 2\pi f$ is given by

T e kin ad = h škrt* ω

Values of *h*	Units	Ref.
6.626070040(81)×10−34	J·s	[1]
4.135667662(25)×10−15	eV·s	[2]
2π	*E*P·*t*P	
Values of ħ (h-bar)	Units	Ref.
1.054571800(13)×10−34	J·s/rad	[2]

6.582119514(40)×10−16	eV·s/rad	[2]
1	*E*P·*t*P/rad	
Values of *hc*	Units	Ref.
1.98644568×10−25	J·m	
1.23984193	eV·μm	
2π	*E*P·ℓP	
Values of *ħc*	Units	Ref.
3.16152649×10−26	J·m	
0.19732697	eV·μm	
1	*E*P·ℓP	

……

v/c =0.31011

1-v/c = 0.68989

ln |1-v/c|= -0.37122311438
(v/c) / (1-v/c) = 0.4495064430561394
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0782833286761394
……

v/c =0.311

1-v/c = 0.689

ln |1-v/c|= -0.37251400796
(v/c) / (1-v/c) = 0.4513788098693759
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0788648019093759
……

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 30 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=30 keV/511 keV = 30/511 =0.05870841487
v/c =0.4

1-v/c = 0.6

ln |1-v/c|= -0.51082562376
(v/c) / (1-v/c) =0.6666666666666667
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.1558410429066667

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 20 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=20 keV/511 keV = 20/511 =0.03913894324
……...

v/c =0.3

1-v/c =0.7

ln |1-v/c|= -0.35667494393

(v/c) / (1-v/c) = 0.4285714285714286

[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0718964846414286

………………………………..

v/c =0.2

1-v/c =0.8

ln |1-v/c|= -0.22314355131

(v/c) / (1-v/c) = 0.25

[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.02685644869

………………….

v/c =0.1

1-v/c =0.9

ln |1-v/c|= -0.10536051565

(v/c) / (1-v/c) =0.1111111111111111

[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0057505954611111

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

[ln |1-v/c|+ (v/c) / (1-v/c)] =3,7159509852767516181284672827069e-6

Max ve /c = 0,0027212042

1-v/c = 0,9972787958

ln |1-v/c|= -0,0027249134066830536111720837817173

(v/c) / (1-v/c) = 0,0027286293576683303627902122492917

T e kin id (ve /c =0,0027212042)=

= 0,510998928 * [ln |1-v/c|+ (v/c) / (1-v/c)] =

= 0,510998928 *3,7159509852767516181284672827069e-6 MeV/*c*2=

=

T e kin id (ve/c = 0,0027212042)= 1,8988469699769638601859121477463 eV=

= - 3,0422881253125849365266242871 97e-19 J

[ln |1-v/c|+ (v/c) / (1-v/c)] = 3,7048557712523575878139867632 67e-6

min ve /c = 0,002717146

1-v/c = 0,997282854

ln |1-v/c|= -0,0027208441416388645519324212824174

(v/c) / (1-v/c) = 0,0027245489974101169095202352691807

T e kin id (ve /c = 0,002717146)=
= 0,510998928 MeV* [ln |1-v/c|+ (v/c) / (1-v/c)] =
= 0,510998928 MeV*3,704855771252357587813986763267e-6 =
T e kin id (ve/c =0,002717146)= 1,893177327504567944845613099435 6 eV = -3,033204356983035329204693575199 8e-19 J

T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146) =
1,893177327504567944845613099435 6 eV -1,898846969976963860185912147746 3 eV = -0,005669642472395915340299048311 eV=
= 9,083768329549607321930711997182 3e-22 J

h*f = T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146)
=9,083768329549607321930711997182 3e-22 J

h = 9,083768329549607321930711997182 3e-22 J /

The wavelength according to Broglie $\lambda = \frac{h}{mv}$

according to Compton $\lambda = \frac{h}{mc}$

according to Vlcek $\lambda = \frac{h}{mc} \frac{\cos^2 \varepsilon}{\left[\ln \left| 1 - \frac{v}{c} \cos \varepsilon \right| + \frac{\frac{v}{c} \cos \varepsilon}{1 - \frac{v}{c} \cos \varepsilon} \right]}$

λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
λ = *h* / mc [ln |1+v/c|- (v/c) / (1+v/c)] =

Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Electron in afnucl ... v/c =0,002717146
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,704855771252357587813986763267e-6

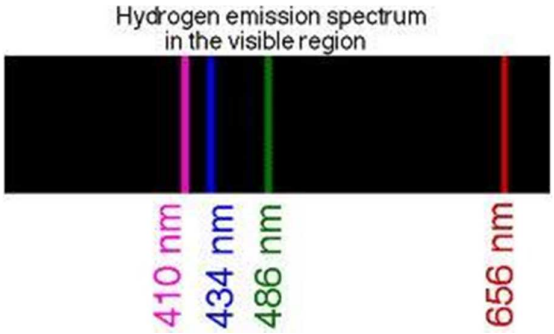
λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(0,510998928 MeV/c) [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(510998,928 eV/299792458 m/s) [ln |1-v/c|+ (v/c) / (1-v/c)] =
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,704855771252357587813986763267e-6
654,9nm = *h*/{(0,001704508950655456449141225560 7845 eVs/m)*
* 3,704855771252357587813986763267e-6 }=

654,9nm = *h*/{6,31495982298716782543479829447 75e-9 eVs/m}=
h = 654,9e-9 m *{6,31495982298716782543479829447 75e-9 eVs/m}=
h = 4,13566718807429620887724940305 33e-15 eVs

Values of *h*	Units	Ref.
6.62606957(29)×10−34	J·s	[1]
4.135667516(91)×10−15	eV·s	

Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Graphical abstract
Spectral line Halfa 656.281 + - 1.4 nm



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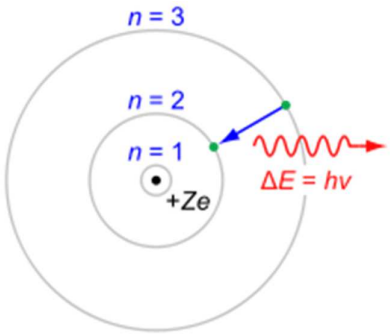

E2 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 3,4 eV

E1 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 1,51 eV

……..
BEISER p.74 EXPERIMENT 0.13 – 0.48 A

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 50 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=50 keV/511 keV = 50/511 = 0.09784735812
v/c =0.65

1-v/c = 0.35

ln |1-v/c|= -1.0498221245
(v/c) / (1-v/c) = 1.85714285714
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.80732073264

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 40 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=40 keV/511 keV = 40/511 =0.07827788649

v/c =0.3

1-v/c =0.7

ln |1-v/c|= -0.35667494393

(v/c) / (1-v/c) = 0.4285714285714286
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0718964846414286
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[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0782774647724666
40/511 =0.07827788649
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Wave
v/c =0.310101

1+v/c = 1.310101

ln |1+v/c|= 0.27010423347
(v/c) / (1+v/c) = 0.2367000712158834
[ln |1+v/c|- (v/c) / (1+v/c)]=0.0334041622541166

T e kin ad =0,510998928 MeV * [ln |1+v/c|- (v/c) / (1+v/c)]=
T e kin ad = 511keV*0.0334041622541166 = 17.0695269118535826 keV

Values of *h*	Units	Ref.
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f = 4127.3932788880806835e+15 Hz
Lambda = c/f = 299792458/ 4127.3932788880806835e+15 Hz
Lambda =0.0000000000726348 m = 0.726348 A = 0.0726348 nm
0.726348 A/2 pí = 0.115601874604912 A čo by sedelo s experimentom !!?
Výstupná práca je kde????
BEISER p.74 EXPERIMENT 0.13 – 0.48 A

The energy of a photon with angular frequency $\omega = 2\pi f$ is given by
T e kin ad = h škrt* ω

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Values of *hc*	Units	Ref.
1.98644568×10−25	J·m	
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3.16152649×10−26	J·m	
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1	*E*P·ℓP	

……

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1-v/c = 0.68989

ln |1-v/c|= -0.37122311438
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v/c =0.311

1-v/c = 0.689

ln |1-v/c|= -0.37251400796
(v/c) / (1-v/c) = 0.4513788098693759
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.0788648019093759
……

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 30 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=30 keV/511 keV = 30/511 =0.05870841487
v/c =0.4

1-v/c = 0.6

ln |1-v/c|= -0.51082562376
(v/c) / (1-v/c) =0.6666666666666667
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.1558410429066667

T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 20 keV
[ln |1-v/c|+ (v/c) / (1-v/c)]=20 keV/511 keV = 20/511 =0.03913894324
……...
v/c =0.3

1-v/c =0.7

ln |1-v/c|= -0.35667494393

(v/c) / (1-v/c) = 0.4285714285714286
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0718964846414286
……..
v/c =0.2

1-v/c =0.8

ln |1-v/c|= -0.22314355131

(v/c) / (1-v/c) = 0.25
[ln |1-v/c|+ (v/c) / (1-v/c)]= 0.02685644869
…….
v/c =0.1

1-v/c =0.9

ln |1-v/c|= -0.10536051565
(v/c) / (1-v/c) =0.1111111111111111
[ln |1-v/c|+ (v/c) / (1-v/c)]=0.0057505954611111

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

[ln |1-v/c|+ (v/c) / (1-v/c)] =3,7159509852767516181284672827069e-6

Max ve /c = 0,0027212042

1-v/c = 0,9972787958
ln |1-v/c|= -0,00272491340668305361117208378173
(v/c) / (1-v/c) = 0,00272862935766833036279021224929 17
T e kin id (ve /c =0,0027212042)=
= 0,510998928 * [ln |1-v/c|+ (v/c) / (1-v/c)] =
= 0,510998928 *3,7159509852767516181284672827069e-6 MeV/*c*2=
=
T e kin id (ve/c = 0,0027212042)= 1,898846969976963860185912147746 3 eV=
= - 3,042288125312584936526624287197e-19 J

[ln |1-v/c|+ (v/c) / (1-v/c)] = 3,704855771252357587813986763267e-6
min ve /c = 0,002717146

1-v/c = 0,997282854

ln |1-v/c|= -0,00272084414163886455193242128241 74
(v/c) / (1-v/c) = 0,00272454899741011690952023526918 07
T e kin id (ve /c = 0,002717146)=
= 0,510998928 MeV* [ln |1-v/c|+ (v/c) / (1-v/c)] =
= 0,510998928 MeV*3,704855771252357587813986763267e-6 =
T e kin id (ve/c =0,002717146)= 1,893177327504567944845613099435 6 eV = -
3,033204356983035329204693575199 8e-19 J

T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146) =
1,893177327504567944845613099435 6 eV -1,898846969976963860185912147746 3 eV = -
0,005669642472395915340299048311 eV=
= 9,083768329549607321930711997182 3e-22 J

h*f = T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146)
=9,083768329549607321930711997182 3e-22 J

h = 9,08376832954960732193071199718 23e-22 J /

The wavelength according to Broglie $\lambda = \frac{h}{mv}$

according to Compton $\lambda = \frac{h}{mc}$

according to Vlček $\lambda = \frac{h}{mc} \frac{\cos^2 \varepsilon}{\left[\ln \left| 1 - \frac{v}{c} \cos \varepsilon \right| + \frac{\frac{v}{c} \cos \varepsilon}{1 - \frac{v}{c} \cos \varepsilon} \right]}$

λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
λ = *h* / mc [ln |1+v/c|- (v/c) / (1+v/c)] =

Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Electron in afnucl ... v/c =0,002717146
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,70485577125235758781398676 3267e-6

λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(0,510998928 MeV/c) [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(510998,928 eV/299792458 m/s) [ln |1-v/c|+ (v/c) / (1-v/c)] =
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,70485577125235758781398676 3267e-6
654,9nm = *h*/{(0,00170450895065545644914122556078 45 eVs/m)*
* 3,70485577125235758781398676 3267e-6 }=
654,9nm = *h*/{6,31495982298716782543479829447 75e-9 eVs/m}=
h = 654,9e-9 m *{6,31495982298716782543479829447 75e-9 eVs/m}=
h = 4,13566718807429620887724940305 33e-15 eVs

Values of *h*	Units	Ref.
6.62606957(29)×10−34	J·s	[1]
4.135667516(91)×10−15	eV·s	

Calculations P lank´s constant

23. The wavelength according to Broglie $\lambda = \frac{h}{mv}$

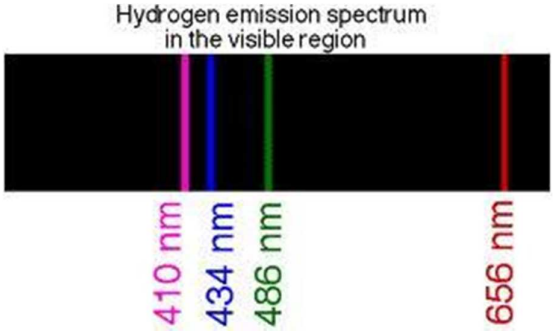
according to Compton $\lambda = \frac{h}{mc}$

according to Vlcek $\lambda = \frac{h}{mc} \frac{\cos^2 \varepsilon}{\left[\ln\left|1 - \frac{v}{c}\cos\varepsilon\right| + \frac{\frac{v}{c}\cos\varepsilon}{1 - \frac{v}{c}\cos\varepsilon} \right]}$

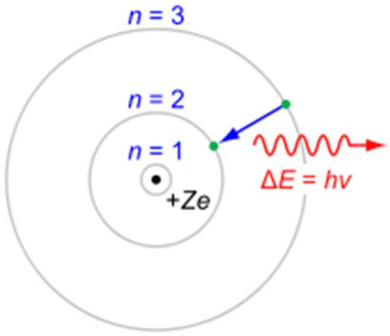
Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Graphical abstract

Spectral line Halfa 656.281 + - 1.4 nm



http://en.wikipedia.org/wiki/Balmer_series :



E2 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 3,4 eV

E1 ….T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = 1,51 eV

In the simplified Rutherford Bohr model of the hydrogen atom, the Balmer lines result from an electron jump between the second energy level closest to the nucleus, and those levels more distant. Shown here is a photon emission. The $3 \rightarrow 2$ transition depicted here produces H-alpha, the first line of the Balmer series. For hydrogen ($Z = 1$) this transition results in a photon of wavelength 656 nm (red).

In 1900 Max Planck hypothesized that the frequency of light emitted by the black body depended on the frequency of the oscillator that emitted it, and the energy of these oscillators

increased linearly with frequency (according to his constant h, where E = hv).

Theoretical Planck´s oscillator we can replace with circulating electron along ellipse around the nucleus of an atom between two Bohr´s energy levels, while electron moving alternately with acceleration and deceleration. This electron really blinks. When an electron moves at the speed of a higher Bohr energy levels (from afnucleus) to lower (towards perinucleus) radiates spectral lines of certain thickness. (real blinks) For example, spectral line Halfa 656.281 + - 1.4 nm. From the thickness of the spectral lines we can easily identify the smallest (in afnucleus) and largest (in perinucleus) the speed of the electron around the nucleus of an atom, taking into account the kinetic energy of the electron in the direction of movement and against the movement if we know that according to the Doppler principle is the lowest wavelength (highest frequency) and against the direction of motion of the electron is a wavelength of the highest (lowest frequency).

$\frac{v}{c}$	Front of electron $\left[ln\left\|1-\frac{v}{c}\right\|+\frac{\frac{v}{c}}{1-\frac{v}{c}}\right]$	Behind of electron $\left[ln\left\|1+\frac{v}{c}\right\|-\frac{\frac{v}{c}}{1+\frac{v}{c}}\right]$
Electron in afnucl 0,002717146 It is in the direction of motion (id) 654,9nm	3,70485577125235758781398676326 7e-6 1,89317732750456794484561309943 56 eV Lambdaid (v/c=0,002717146) = hc/Ek,id = =654,900051928391151030938994 nm 4,57768261152589217195092599758 95e+14 Hz 1,89317732750456794484561309943 56 eV	
Electron in afnucl Min = 0,002717146 It should be in the direction of motion (id)	3,70485577125235758781398676326 7e-6 Lambdaid = c/ fmax= 654,9 nm 4,57768297449992365246602534738 13e+14 Hz	

The core of the spectral line Hα	1,893177477618559059393814322796 eV Max Energy	
XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXX
Electron average speed 0,0027191751 For the wings[4] of spectral line Hα (id) and (ad)	3,710401297112462978082151068252 1e-6 1,896011085274278077239666691810 9 eV Lambdaid (v/c= 0,0027191751)=hc/ Ek,id = =653,92124535655764172783570 nm	3,683593932950416663919 08 1,882312550924966792415 98 Lambdaad (v/c= 0,002719175 =658,68 nm
XXXX Official physics:	Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV	XXXXXXXXXXXXXXXX
Electron in perinucl Max =0,0027212042	[ln |1-v/c|+ (v/c) / (1-v/c)] =	
Electron in perinucl Max =0,0027212042 It should be against the direction of motion (ad) 657,7 nm The core of the spectral line Hα	1 eV = - 1,60217657e-19 J , 1 MeV = -1,60217657e-13 J m e = 0,510998928 MeV/*c*2 T e kin id =0,510998928 MeV * [ln |1-v/c|+ (v/c) / (1-v/c)] = T e kin id (ve/c = 0,0027212042)= =1,898846969976963860185912147746 3 eV = = 3,042288125312584936526624287197e-19 J	3,689083528934724999249 2 1,885117728588101456591 1 Lambdaad = c/ fmin= 657,7 n 4,558194587197810551923 3 Hz 1,885117728588101456591 1
Electron in perinucl Max 0,0027212042 It is against the direction of motion		3,689083563475429476093 2 1,885117746238364416623 2 Lambdaad (v/c= 0,002721204

(ad) 657,7 nm		= 657,699993841987869470

[ln |1-v/c|+ (v/c) / (1-v/c)] =3,7159509852767516181284672827069e-6

Max ve /c = 0,0027212042

1-v/c = 0,9972787958
ln |1-v/c|= -0,0027249134066830536111720837817173
(v/c) / (1-v/c) = 0,0027286293576683303627902122492917
T e kin id (ve /c =0,0027212042)=
= 0,510998928 * [ln |1-v/c|+ (v/c) / (1-v/c)] =
= 0,510998928 *3,7159509852767516181284672827069e-6 MeV/*c*2=
=
T e kin id (ve/c = 0,0027212042)= 1,898846969976963860185912147746 3 eV=
= - 3,042288125312584936526624287197e-19 J

[ln |1-v/c|+ (v/c) / (1-v/c)] = 3,704855771252357587813986763267e-6
min ve /c = 0,002717146

1-v/c = 0,997282854

ln |1-v/c|= -0,0027208441416388645519324212824174
(v/c) / (1-v/c) = 0,0027245489974101169095202352691807
T e kin id (ve /c = 0,002717146)=
= 0,510998928 MeV* [ln |1-v/c|+ (v/c) / (1-v/c)] =
= 0,510998928 MeV*3,704855771252357587813986763267e-6 =
T e kin id (ve/c =0,002717146)= 1,893177327504567944845613099435 6 eV = -
3,033204356983035329204693575199 8e-19 J

T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146) =
1,893177327504567944845613099435 6 eV -1,898846969976963860185912147746 3 eV = -
0,005669642472395915340299048311 eV=
= 9,083768329549607321930711997182 3e-22 J

h*f = T e kin id (ve/c = 0,0027212042) - T e kin id (ve/c =0,002717146)
=9,083768329549607321930711997182 3e-22 J

h = 9,083768329549607321930711997182 3e-22 J /

The wavelength according to Broglie $\lambda = \frac{h}{mv}$

according to Compton $\lambda = \frac{h}{mc}$

according to Vlcek $\lambda = \frac{h}{mc} \frac{\cos^2 \varepsilon}{\left[\ln\left|1 - \frac{v}{c}\cos\varepsilon\right| + \frac{\frac{v}{c}\cos\varepsilon}{1 - \frac{v}{c}\cos\varepsilon}\right]}$

λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
λ = *h* / mc [ln |1+v/c|- (v/c) / (1+v/c)] =

Official physics: Halpha : E3 – E2 = -1,51eV – (-3,40eV) = 1,89eV

Electron in afnucl ... v/c =0,002717146
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,70485577125235758781398676326 7e-6

λ = *h* / mc [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(0,510998928 MeV/c) [ln |1-v/c|+ (v/c) / (1-v/c)] =
654,9nm = *h*/(510998,928 eV/299792458 m/s) [ln |1-v/c|+ (v/c) / (1-v/c)] =
For 654,9nm..... [ln |1-v/c|+ (v/c) / (1-v/c)] =3,70485577125235758781398676326 7e-6
654,9nm = *h*/{(0,00170450895065545644914122556078 45 eVs/m)*
* 3,70485577125235758781398676326 7e-6 }=
654,9nm = *h*/{6,3149598229871678254347982944775e-9 eVs/m}=
h = 654,9e-9 m *{6,3149598229871678254347982944775e-9 eVs/m}=
h = 4,13566718807429620887724940305 33e-15 eVs

Values of *h*	Units	Ref.
6.62606957(29)×10−34	J·s	[1]
4.135667516(91)×10−15	eV·s	

https://lubomirvlcek.academia.edu/cv

Physics has EXPERIMENTS that confirm physical principles.

Mathematics DOES NOT KNOW the EXPERIMENTS!

The ability to understand the laws of science binds us, to spread these new ideas persistently among all scientists.

Nobel laureates in physics are mostly physicists, who mainly create and defend physics. Einstein never received a Nobel prize for relativity...

For nearly 100 years ago have been Nobel Prize winners said:

"- The theory of relativity is a mathematical and not a physical theory."

Change QUALITY

Einstein´s theory Tkin =mc^2 – mo c^2

1996: Tkin id =mc^2 [ln |1-v/c|+ (v/c) / (1-v/c)] NEWTON´S

Tkin ad = mc^2 [ln |1+v/c|- (v/c) / (1+v/c)] MAXWELL´S

Einstein's works only for v < 0.1c.

https://www.trendsinphysics.info/data/New-Trends-in-Physics-Extraordinary-proofs.pdf

https://www.researchgate.net/search?q=Lubomir%20Vlcek

or

https://vixra.org/author/lubomir_vlcek

https://www.trendsinphysics.info/

ORCID: https://orcid.org/0000-0002-0699-0012

VLCEK vs EINSTEIN, Exceptional experimental evidence, Critique of the basics contemporary physics https://www.youtube.com/watch?v=jAi7Wz18pUE

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