Mass defect of H^2 (A)

$$\frac{d^2\psi}{dr^2} + \frac{2}{r}\frac{d\psi}{dr} + \frac{2m}{\hbar^2}\left(E + \frac{g^2 e^{-\lambda r}}{r}\right)\psi = 0.$$

$\frac{ae^{-br}}{br}$

$a^2 = g^2\lambda$

$b = \lambda$

$\lambda r = x$: $\frac{\psi}{r} = y$

$$\frac{d^2y}{dx^2} + \left(A + B\frac{e^{-x}}{x}\right)y = 0$$

$\frac{E}{g^2\lambda}$. $\frac{g^2}{\lambda}$ $\quad A = \frac{2mE}{\hbar^2\lambda^2}$ $\quad B = \frac{2mg^2}{\hbar^2\lambda}$

$\frac{A}{B}$.

$m \cong \frac{M_p}{2} \cong 1.66\times10^{-24}/2 = 0.83\times10^{-24}$.

$\hbar \cong 1.042\times10^{-27}$

$E^{erg} = 1.6\times10^{-8}\cdot E^{millivolt}$

$\lambda^{cm} = 10^{12}\lambda^{-1}$ $(10^{-12}\,cm)$

$\frac{2m}{\hbar^2} = \frac{1.66\times10^{-24}}{1.08\times10^{-54}} = 1.54\times10^{30}$

$$A = \frac{2.64\times X\cdot E^{millivolt}}{X^2}$$

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108

$\frac{mc}{\hbar} = \frac{2.7}{1.04}\cdot10^{10}$

$g = g'e = g'\cdot4.77\times10^{-10}$

1.54
1.66
924
154
2464

$B = 1.54\times10^{30}\times(4.77)^2\times10^{-20}$
$\times10^{+12}\cdot\frac{g'^2}{\hbar c}$

$\frac{e^2}{mc^2} = \frac{(4.77)^2}{9.81}\cdot10^{-12} = g$

$= 0.35\times\frac{g'^2}{\hbar c}$

4.77
4.77
3339
3339
1908
22.7629

22.76
1.54
9104
11380
2276
35.0504