

## ERRATA

### Nanophysics and Nanotechnology, 2<sup>nd</sup> edition

- p. 8, 3d line should read “ $10^{12}$  bits/m<sup>2</sup> (one Tb/m<sup>2</sup>)”.
- p. 17 line 4, should read “is exactly two seconds”.
- p. 17 line 8 should read “generate a 500 Hz tone”.
- p. 18, last sentence in the text box, should read: “In the case of the pendulum, if  $x \ll L$  is the horizontal displacement of the mass  $m$ , then  $F/m \approx -gx/L$  and  $\omega = (g/L)^{1/2}$ .”
- p. 18, 2<sup>nd</sup> line after the text box, replace “ $\omega \propto \alpha L^{-1}$ ” by “ $\omega \propto L^{-1}$ ”.
- p. 18 line 11, should read “ $LF/YA=0.11 \mu\text{m}=110 \text{ nm}$ ”.
- p. 18 line 8, should read “This frequency is nearly in the ultrasonic range.”
- p. 20, 3d line in Section 2.2 should read:  
“ $m \propto L^3$  and  $K \propto L$ , so  $\omega = (K/m)^{1/2} \propto L^{-1}$ ”
- p. 20, 3d paragraph from bottom of page: The spring constant  $K$  is defined as  $K = F/\Delta L = AY/L$ , so  $K \propto L^{-1}$ .  
The last line in this par. should read: “constant  $K = AY/L$ ,  $\propto L^{-1}$ ”.
- p. 21, 1<sup>st</sup> line, replace “ $v \propto L^0$ ” by “ $v \propto L^0$ ” and “ $\omega \propto L^{-1}$ ” by “ $\omega \propto L^{-1}$ ”.
- p. 21, 2<sup>nd</sup> line, replace “ $a \propto L^{-1}$ ” by “ $a \propto L^{-1}$ ”.
- p. 21, 9<sup>th</sup> line, replace “ $\alpha \omega U$ ” by “ $\propto \omega U$ ”.
- p. 30, 3<sup>rd</sup> line, reads "order of 100 pW" should read "order of 1 nW"
- p. 127, 10<sup>th</sup> line should read:  
“ $E = 2.5 \text{ V/nm}$ ,  $\tau$  is extremely long, estimated as  $6 \times 10^{35} \text{ s}$  or  $1.9 \times 10^{28} \text{ y}$ . This latter ...”
- p. 217, the symbol  $A$  (the Hamaker constant) was omitted and should appear in the numerator of Eq. 9.3a.  
Eq. 9.3a should read “ $E_{\text{vdW}} = -AS / (12\pi s^2)$ ”.
- p. 269, line 13, part A. of Exercise 5.12 (this is fairly far down in the text explaining this exercise) there is a missing exponent  $\frac{1}{2}$  on the square bracket term at the end of the line. The correct statement is  
“A. Solve the quadratic  $-E_0 = -ke^2/x - eEx$ , show that  $\Delta x = [(E_0/e)^2 - 4keE]^{1/2}/E$ .”  
The square bracket term at the end of the line correctly has exponent  $\frac{1}{2}$ .
- p. 269, last three lines before Exercise 5.13, should read “The lifetime is about  $6.04 \times 10^{35} \text{ s}$  or about  $1.91 \times 10^{28} \text{ y}$ . (The famous result of Oppenheimer is a lifetime of  $(10^{10})^{10} \text{ s}$  for  $E = 1000 \text{ V/m}$ .)” This is the corrected estimate of the lifetime of the H atom against field ionization in an applied field of  $2.5 \text{ V/nm}$ . The exponent -118.8 is correctly given in the problem statement.
- p. 271, 2<sup>nd</sup> line, “Table 5.1” should be replaced by “Table 5.2”.
- p. 275, "Some Useful Constants", left column halfway down words "Permittivity of Space" should read "Permeability of Space".