Fabrication Engineering at the Micro and Nano Scale
Third edition of "The Science and Engineering of Microelectronic Fabrication",
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Errata file
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Many thanks to all who have contributed to this list

Chapter 2
Page 28, example 2.4. The line written "C_s=0.8x10^{-6}=5x10^{22} atoms/cm^3 = 4x10^{16} cm^{-3}" should have been "C_s=0.8x10^{-6} * 5x10^{22} atoms/cm^3 = 4x10^{16} cm^{-3}"
Page 36, In problem 2.15 part c, there is no physically possible solution. A better version of this problem would be to assume that the gallium concentration is half that of the phosphorus instead of twice that of the phosphorus.

Chapter 3
Page 49, Example 3.1 There is a typo on the last line. The value of n is 1.61e+19, not 1.41e+19. The solution is correct.
Page 52, Example 3.2. In the junction depth equation, the $\sqrt{Dt}$ term should be in the denominator.

Chapter 4
Page 82, equation 4.17 The argument of the exponential should be exp(-B/A*(t + tau)/L2) instead of exp(-B/A*(t + tau/L2))

Chapter 5
Page 135 Problem 10 – the units for implant dose are cm^{-2} not cm^{-3}.

Chapter 7
Pages 172 (top) and 193 (bottom), areal was written as aerial.
Page 173 The problem statement says to use a numerical aperture of 0.63, but in the simulation a NA of 0.43 was used.
Page 175 The text states "Most lamps contain a mercury vapor pressure close to 1 atm when the lamp is cold". The total pressure is primarily due to the Xe buffer gas at room temperature, not the mercury vapor pressure. As the temperature rises the vapor pressure goes up exponentially, and at operating conditions it is a significant fraction of the total pressure.
Page 195 Problem 7.1. In the problem you need to assume a value for the fraction of atoms that are ionized. For this type of plasma, a reasonable value would be about 0.01%. The solution in the original solution manual assumed 100% ionization which is incorrect. Also, a better value for the peak blackbody emission is 300 nm.

Chapter 10
Page 261 Table 10.1, The conversion between torr and itself is of course 1.0, not 1000
Page 281 Problem 3. Cv is 5/2 k, not 5/2 nk – see example in chapter.
Page 281 Problem 4, To be consistent with the solution manual the distance should be 3 mm, not 5 mm. Check with your instructor to see which value to use.

Chapter 11

Page 293, near the bottom of the page. Taking the assumptions given for a purely chemical attack by radical diffusion, the etch rate is approximately 2000 nm/sec, not 100 nm/min.

Page 301, Example 11.3, The correct units for K is F/m, not sec/F-m.

Page 302, Figure 11.17, Wafer was misspelled as Water

Page 309 3rd paragraph, uniform was misspelled as iniform

Page 310, 3rd paragraph, systems was misspelled as sytems

Page 312 Problem 11.6 should refer to example 11.3, not 11.2

Chapter 12

Page 324 Equation 12.1, The exponent should be negative ($e^{-\Delta H\nu/NkT}$)

Page 330 Equation 12.10, The exponent should be negative ($e^{-Ea/kT}$)

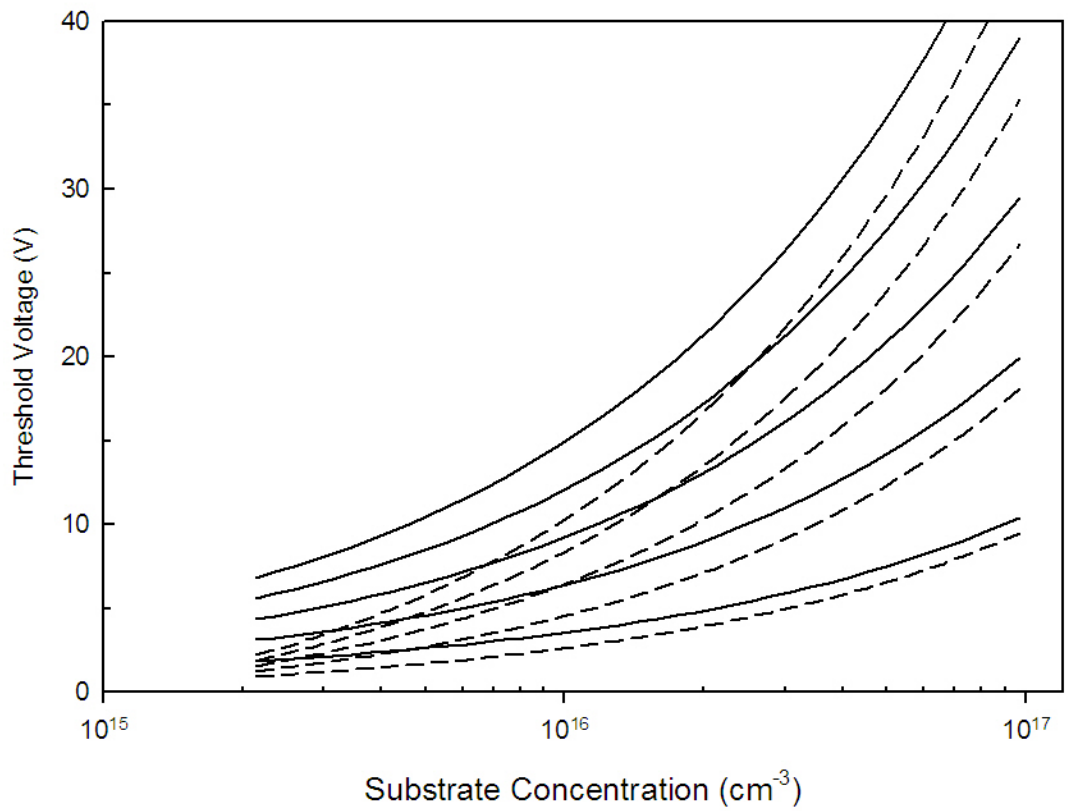
Page 339 Example 12.4, replace the phrase "the voltage between the target and the plasma is 104.6 V" with "the system is at 250 C". This gives an Ar^+ flux of 5.8×10^{13} cm^{-2}-sec^{-1}, which yields an Al deposition rate of 0.7 nm/min.

Page 351 Problem 12.7a should read "…the ratio of the deposition rate at the edge of the wafer to the deposition rate at the center of the wafer."

Chapter 13

Page 363 – Example 13.2. The first equation should be z_v = a/25 * U * rho/mu = a^2/25 * U * rho/eta

Page 380 – 2nd paragraph, aluminum was misspelled as aliminnum



Chapter 15
Page 440 Figure 15.4 has a small error that leads to incorrect values, particularly at low doping concentrations. Here is the corrected figure.

Chapter 16
Page 484 Equation 16.14; In the mobility term denominator the parameter I_{DS} was written T_{DS}
Page 501 Problem 2, part b. Delete the sentence “Assume that Rs=80 ohms/sq”.