Errata
(May, 2005 -- only important errata listed – not minor typos)

\[ \sum_{\mu=1}^{m} \langle \psi_{\mu} | \psi_{(m-\nu)} \rangle = 0, \; m \neq 0. \] (3.64)

1. Notation: \( u_{\alpha\beta} \) denotes a strain tensor (not a stress tensor)
2. line 6 – 1991 should be 1911
64: Eq. (3.48) – The large square brackets should be omitted.
70: Eq. (3.64) – indices \( n \) and \( i \) should be replaced by \( m \) as shown in the equation at the right:
70: line after (3.64) should read:
where we have collected all terms of order \( \lambda^{m} \) and then set \( \lambda = 1 \).
73: Exercise 3.19 is incorrect as stated. The second sentence should read:
Show that such an empty orbital does not experience a self contribution to the exchange energy, whereas for a filled state there is an attractive self term in the exchange.
75: Caption of Fig. 2 – 60º should be replaced by 90º in two places.
83: Eq. (4.14) – for fcc, \( b_{3} \) should be \((-1,1,1)\).
84: Eqs. (4.16) and (4.17) contain spurious "\( | \)". These should be omitted.
87: Exercise 4.3 – "60 degrees" should be replaced by "90 degrees".
117: Exercise 5.14 – The hint should be replaced by:
(Hint: Assume the change in the density due to the impurity is \( \delta n(r) = \exp(-k_{TF} r) / r \), and determine the decay constant \( k_{TF} \) from the TF equations expanded to linear order in \( \delta n(r) \).)
127: Eqs. (6.20) - (6.22) – corrections as shown to the right:
137: Eq. (7.3) – the last term should be integrated over all space.
157: line before (8.11) – \( n^{1/2} \) should be \( n^{-1/2} \).
189: Eq. (10.10) – in the last term \( r^{2} \) should be \( r^{-2} \).
201: line above Eq. (10.40) – \( r^{-2} \) should be \( r^{2} \).
252: line 2 – Mathieu (instead of Matthew)
252: bottom – \[ 567 \] (instead of \[ 560 \]).
287: Eqs. (14.15) and (14.16) – The x and y components should be interchanged to agree with the cell oriented as in Fig. 4.5 and 14.9a.
Two lines below (14.16) – the K point should be \( k_{x} = (2/3)(2 \pi/a), k_{y} = 0 \).
296: Exercise 14.19 – The K point should be \( k_{x} = (2/3)(2 \pi/a), k_{y} = 0 \).
427: last sentence of section 23.7 – The reference should be to Haynes and Payne [859] see errata for the references.
479-80: Eqs. (B.4) and (B.5) should be omitted; they repeat (B.2) and (B.3) and contain small errors.
In Eq. (B.6) the letters "m" and "M" are spurious and should be omitted. In the first line of (B.6) \( n_{r} \) should be \( n_{r} \) in both forms. Note that selected forms for the unpolarized case are given; complete expressions can be found in [224,368,413].
503: Eq. (F.7) – Replace by \( \gamma_{c} = -\alpha (Ze)^{2}/(2R) \), where \( 2R = d \), the nearest neighbor distance for ionic crystals (top line of Tab. F.1), and \( R = R_{WS} \), the Wigner Seitz radius for elemental crystals (bottom line of Tab. F.1).
504: Replace the lines after Eq. (F.9) by:
which is very close to the Madelung energies for the close-packed metal in Tab. F.1.
575: The speed of light in atomic units is 137.036,000 (instead of 137,036,000).


Back Cover: last sentence - Recently he has been associate editor for condensed matter theory for the Reviews of Modern Physics condensed matter theory. (Peter Littlewood is now associate editor for condensed matter theory.)