Errata discovered in Toroidally Confined Plasmas
Plus improvements and additions

**Second edition**

**Chap 1**
Eq 1.25 last term first line, should be $-\vec{e}_\alpha \cdot \partial_\beta \vec{e}_\kappa]$, indices $\alpha$, $\beta$ switched
Eq 1.30 lhs should be $\nabla\zeta$
bottom p 11 Remove the subscript p in first expression, eliminate second expression, making $(1/2\pi)\int(\vec{B}\cdot\nabla\zeta)\mathcal{J}d\zeta d\theta d\psi = 2\pi\psi$,

**Chap 2**
Eq 2.31 The denominator should be $\mathcal{J}q$, not $q$
Improved discussion after Eq 2.43 and added Prob 7

**Chap 7**
Improved energy transfer section and added the bounce frequency fishbone Added problem 1, pendulum
**Chap 9**
Eq 9.5 should be $(a, z)_s$, and line above should read "including the slow ..."

**Revised Second Edition**

**Chap 2**
page 34, 35 The expression for toroidal section before Eq 2.15 is wrong. It should be $\nabla\zeta'$, not $\nabla\theta$.
Eq 2.43 $\vec{\zeta}$ should be $\nabla\zeta$
**Chap 3**
After Eq 3.8 there should be the remark that terms of second order in gyro radius have been dropped, ie terms in w**2 without a factor of dot(xi).
Eq 3.27 third row $P_\theta$ not $P_\zeta$, last row $-\partial_\psi P_\zeta$

**Third Edition**

**Chap 3**
There should be an extended discussion of canonical momentum in tokamaks with reversed field. Co-injection refers to beam injection in the direction of the current, not the field, and confinement is better with co-injection than with counter injection. This is easy to remember by noting that two current carrying wires attract with co-current, and repel if opposite. Consider a particle co-injected at the last closed flux surface, with $\vec{B}$ and $\vec{j}$ positive, and coordinates with $\phi$ positive, and $\phi$, $\psi$, $\theta$ right handed, as in Fig. 1.3. The particle will initially move in the positive $\theta$ direction, drift will be downward, and the particle well confined. Now reverse $\vec{B}$. The particle will initially move in the negative $\theta$ direction, drift will be upward, and again the particle will be well confined. The orbit position in the $E$, $P_\zeta$, $\mu$ plane is unchanged. Thus we must define $P_\zeta = g\rho_\parallel(\vec{j}\cdot\vec{B})/(jB) - \psi_p$ with $\rho_\parallel = \vec{v}\cdot\vec{B}/B^2$. All equations in the book are written assuming that $\vec{j}$ and $\vec{B}$ are both positive.