Erratum: "A four-field model for tokamak plasma dynamics" [Phys. Fluids 28, 2466 (1985)]

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(Received 18 September 1985; accepted 10 October 1985)

Equation (83) is not in general correct: the energy defined in Eq. (82) is not generally conserved by the four-field equations of motion in the dissipationless limit. Instead H is invariant only in two-dimensional (axisymmetric or helically symmetric) theory. The discussion following Eq. (83) is correct; in particular, the compressible, reduced magnetohydrodynamic (CRMHD) energy of Eq. (85) is indeed conserved. Also, the "cold-ion" CRMHD energy $H = \frac{1}{2} \langle |\nabla_{\perp} \psi|^2 + |\nabla_{\perp} \varphi|^2 + v^2 + p^2/2\beta \rangle$ is conserved for the three-dimensional four-field model in the limit $T_i = 0$. Discussion of energy conservation together with additional constants of motion for the complete four-field model will be the subject of a future publication.