A Vlasov equation to describe the Alfven wave CVK spectrum[1]

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Vlasov description of the Alfven wave to enable a kinetic analysis of experimental
data of wave-particle interactions (suprathermal electron parallel-velocity distribu-
tion functions). By neglecting the displacement current, the Alfven wave is described
by a Case-Van Kampen (CVK) continuum analogous to the electron plasma wave
and the ion acoustic wave. Use of the appropriate diagonalizing transform (pro-
jection onto CVK modes) provides a way of analyzing the interaction of a plasma
antenna structure with the plasma. This Vlasov description reduces to the usual
two-fluid description of kinetic and inertial Alfven waves in the appropriate limits.

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