SYMMETRIES OF THE KINETIC PLASMA THEORY

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Symmetry transformations are found for the kinetic theory of the upper hybrid oscillations of the electron plasma. It is shown that in the cold electron plasma limit the symmetry extension takes place, allowing us to obtain the general solution which is analogous to that found previously in the Lagrangian variables. The results are compared to the known symmetry properties of the Langmuir oscillations of the electron plasma. The algorithm used in the present work to obtain the symmetries of kinetic models of the plasma theory is illustrated on the example of Langmuir oscillations in the multi-component plasma.