Stationary Self-Consistent Distribution of Bunched Beam in RF Field, Y.K. BATYGIN, RIKEN - Emittance conservation of a high brightness particle beam in RF accelerator is an issue for existing and future high intensity accelerator projects. If the beam is matched with external focusing field, its distribution function as well as beam emittance are conserved. Finding matched conditions for the beam requires solutions of the self-consistent problem for beam distribution function in phase space. In this paper an analytical approximate solution of Vlasov-Poisson equations for self-consistent particle equilibrium in RF field is found. Solution is attained in approximation of high brightness beam. Distribution function in phase space is determined as a stationary function of the energy integral. Equipartitioning for beam distribution between degrees of freedom follows directly from the choice of stationary distribution function. Analytical expression for r-z equilibrium beam profile in RF field is obtained.