Abstract

The boundary value problems for a Schrodinger non-linear equation often arise in quant mechanics, nucleur physics, non-linear optics, theory of super-conductivity and in other fields of up-to-date physics and engineering [1, 2].

In the given paper we consider the boundary value problems for a Schrodinger non-linear equation when a coefficient of the equation is a quadratically summable function. Such boundary value problems for Schrodinger non-linear equation with boundedly measurable coefficient were studied, for example, in the papers [3 − 6] and others.

Notice that the Cauchy problems for a Schrodinger non-linear equation with singular coefficient were studied in the papers [7, 8] and others.