

## Solvability of a Quadratic Integral Equation of Fredholm Type Via a Modified Argument

*İlyas Dal and Ömer Faruk Temizer*

ABSTRACT: This article concerns with the existence of solutions of the a quadratic integral equation of Fredholm type with a modified argument,

$$x(t) = p(t) + (Fx)(t) \int_0^1 k(t, \tau)x(q(\tau))d\tau,$$

where  $p, k$  are functions and  $F$  is an operator satisfying the given conditions. Using the properties of the Hölder spaces and the classical Schauder fixed point theorem, we obtain the existence of solutions of the equation under certain assumptions. Also, we present two concrete examples in which our result can be applied.

*AMS Subject Classification:* 45G10, 45M99, 47H10.

*Keywords and Phrases:* Fredholm equation; Hölder condition; Schauder fixed point theorem.