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Bifurcation theorems for Hammerstein nonlinear integral equations. (English) Zbl 1020.45002
Glasg. Math. J. 44, No. 3, 471-481 (2002).

The author studies the Hammerstein integral equation

$$u(x) = \lambda \int_{\Omega} k(x, y) f(y, u(y)) dy$$

in $L^{\infty}(\Omega)$ and shows the conditions when $\lambda = 0$ is a bifurcation point. An application to the Dirichlet boundary value problem

$$u'' = -\lambda f(x, u), \quad u(0) = u(1) = 0$$

is also given.

Reviewer: [Nikolai K. Karapetyants](#) (Rostov-na-Donu)

MSC:

[45G10](#) Other nonlinear integral equations

[47H30](#) Particular nonlinear operators (superposition, Hammerstein, Nemytskiĭ, Uryson, etc.)

[34L30](#) Nonlinear ordinary differential operators

[47J15](#) Abstract bifurcation theory involving nonlinear operators

Cited in 4 Documents

Keywords:

[bifurcation](#); [Hammerstein nonlinear integral equations](#); [Dirichlet boundary value problem](#)

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