QUALITATIVE PROPERTIES OF THE SOLUTIONS TO NON-LINEAR DELAY DIFFERENTIAL EQUATIONS SUBJECT TO A GENERALIZED NON-RESONANCE CONDITION

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ABSTRACT. Under a generalized nonresonance condition, the scalar delay differential equation $x'(t) = g(x(t), x(t - \tau)) = f(t)$ has a unique bounded solution for every bounded continuous forcing function f. We consider properties of f that are inherited by the solution (e.g., periodicity) and what happens to the solution under certain perturbations of f.