QUASI–PERIODIC SOLUTIONS OF NONLINEAR DIFFERENTIAL EQUATIONS VIA THE FLOQUET–LIN THEORY

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Abstract. We use a Floquet theory for quasi-periodic linear ordinary differential equations due to Zhensheng Lin to obtain results on the quasi-periodic solutions of quasi-periodic nonlinear ordinary differential equations. First we obtain an existence result, secondly we obtain a result on the continuous dependence by using a parametrized fixed point theorem, and thirdly we obtain a local result on the differentiable dependence by using an implicit function theorem in function spaces.

Keywords and phrases: quasi-periodic solutions, Floquet theory, fixed-point theorem, implicit function theorem.

REFERENCES