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Jean Marcel Fokam* (fokam@aun.edu.ng), School of Arts and Sciences, American Univers,
University of Nigeria, Yola, 2250, Nigeria. *Multiplicity and regularity of large periodic solutions
with rational frequency for a class of semilinear monotone wave equations.*

We prove the existence of infinitely many classical large periodic solutions for a class of semilinear wave equations with periodic boundary conditions:

$$\begin{aligned}u_{tt} - u_{xx} &= f(x, u), \\ u(0, t) &= u(\pi, t) \quad , \quad u_x(0, t) = u_x(\pi, t).\end{aligned}$$

Our argument relies on some new estimates for the linear problem with periodic boundary conditions, the Hausdorff-Young theorem of harmonic analysis and a variational formulation due to, Rabinowitz for the corresponding Dirichlet problem.

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