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:

\[ u_{tt} - u_{xx} = f(x, u), \]
\[ u(0, t) = u(\pi, t), u_x(0, t) = u_x(\pi, t). \]

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.

(Received September 13, 2013)