1056-35-1631   **Jintae Kim*** (`j.kim.tu@gmail.com`). *Existence of time periodic solutions of non-linear wave equations.*

The existence of time periodic solutions of nonlinear wave equations

$$u_{tt} - \Delta_n u + \left(\frac{n-1}{2}\right)^2 u = g(u) - f(t, x), \quad (t, x) \in S^1 \times S^n, \; n > 1$$

on n-dimensional spheres is considered. We study the case where $g(u)$ is superliner and not an odd function, so that the corresponding functional is not symmetric. Using minimax arguments, comparison principles and Morse theory, the existence of infinitely many time periodic solutions is obtained. (Received September 22, 2009)