ON THE EXISTENCE OF PERIODIC SOLUTIONS FOR A
p–LAPLACIAN NEUTRAL FUNCTIONAL DIFFERENTIAL
EQUATION WITH TIME–VARYING OPERATOR

ZHENGXIN WANG, JINDE CAO AND SHIPING LU

Abstract. In this paper, a kind of p-Laplacian neutral functional differential equation with time-varying operator as follows

$$\left(\varphi_p\big(u'(t) - \sum_{i=1}^{n} c_i(t)u'(t-r_i)\big) \right)' = f(u'(t)) + \beta(t)g(u(t-\gamma(t))) + e(t),$$

is studied and some new results are obtained. It is worth noting that the parameters $c_i(t)\,(i = 1, 2, \cdots, n)$ are functions and the coefficient $\beta(t)$ (which is ahead of g) is sign-variable here. It is interesting, but it is so challenging and difficult that few people have discussed it so far.

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