

Massera criterion for periodic solutions of differential equations with piecewise constant argument

Thanh N.T.

Department of Mathematics, Hanoi University of Science, 334 Nguyen Trai, Hanoi, Viet Nam

Abstract: In this paper, we prove the almost periodicity of bounded solutions and a so-called Massera criterion for the existence of periodic solutions to differential equation with piecewise constant argument. ??
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Correspondence Address: Thanh, N.T.; Department of Mathematics, Hanoi University of Science, 334 Nguyen Trai, Hanoi, Viet Nam; email: thanhnt79@vol.vnn.vn

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Authors with affiliations:

1. Thanh, N.T., Department of Mathematics, Hanoi University of Science, 334 Nguyen Trai, Hanoi, Viet Nam

References:

1. Arendt, W., Batty, C.J.K., Hieber, M., Neubrander, F., Vector-valued Laplace transforms and Cauchy problems (2001) Monographs in Mathematics, 96. , Basel: Birkh??user
2. Chow, S.N., Hale, J.K., Strongly limit-compact maps (1974) Funkcial. Ekvac., 17, pp. 31-38
3. Furumochi, T., Naito, T., Minh, N.V., Boundedness and almost periodicity of solutions of partial functional differential equations (2002) J. Differential Equations, 180, pp. 125-152
4. Hino, Y., Murakami, S., Periodic solutions of a linear Volterra system (1987) Differential Equations, 118, pp. 319-326. , New York: Dekker
5. Hino, Y., Naito, T., Minh, N.V., Shin, J.S., (2002) Almost Periodic Solutions of Differential Equations in Banach Spaces, , London: Taylor and Francis
6. Hu, Z.S., Mingarelli, A.B., On a question in the theory of almost periodic differential equations (1999) Proc. Amer. Math. Soc., 127, pp. 2665-2670
7. Johnson, R., A linear almost periodic equation with an almost automorphic solution (1981) Proc. Amer. Math. Soc., 82, pp.

8. Katznelson, Y., (1968) an Introduction to Harmonic Analysis, , New York: Dover
9. Levitan, B.M., Zhikov, V.V., (1978) Almost Periodic Functions and Differential Equations, , Moscow Univ. Publ. House
10. Li, Y., Lin, Z., Li, Z., A Massera type criterion for linear functional differential equations with advanced and delay (1996) J. Math. Anal. Appl., 200, pp. 715-725
11. Li, Y., Cong, F., Lin, Z., Liu, W., Periodic solutions for evolution equations (1999) Nonlinear Anal., 36, pp. 275-293
12. Massera, J.L., The existence of periodic solutions of systems of differential equations (1952) Duke Math. J., 17, pp. 457-475
13. Murakami, S., Naito, T., Minh, N.V., Massera's theorem for almost periodicity of solutions of functional differential equations J. Math. Soc. Japan, , in press
14. Naito, T., Minh, N.V., Miyazaki, R., Hamaya, Y., Boundedness and almost periodicity in dynamical systems (2001) J. Differ. Equations Appl., 7, pp. 507-527
15. Naito, T., Minh, N.V., Miyazaki, R., Shin, J.S., A decomposition theorem for bounded solutions and the existence of periodic solutions of periodic differential equations (2000) J. Differential Equations, 160, pp. 263-282
16. Naito, T., Minh, N.V., Shin, J.S., New spectral criteria for almost periodic solution of evolution equations (2001) Studia Math., 145, pp. 97-111
17. Pr?ss, J., (1993) Evolutionary Integral Equations and Applications, , Basel: Birkh??user
18. Seifert, G., Almost solutions of certain differential equations with piecewise constant delays and almost periodic time dependence (2001) J. Differential Equations, 164, pp. 451-458
19. Shen, J.H., Stavroulakis, I.P., Oscillatory and nonoscillatory delay equation with piecewise constant argument (2000) J. Math. Anal. Appl., 248, pp. 385-401
20. Shin, J.S., Naito, T., Semi-Fredholm operators and periodic solutions for linear functional differential equations (1999) J. Differential Equations, 153, pp. 407-441
21. Yuan, R., Almost solutions of a class of singularly perturbed differential equations with piecewise constant argument (1999) Nonlinear Anal., 37, pp. 641-859