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Almost periodicity, almost automorphy and Applications

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Abstract

In this talk we introduce the notion of almost periodicity and almost automorphy. Some applications to the study of initial and boundary value problems for differential equations are presented.

Mathematics Subject Classification : 34C27 ; 34Cxx.

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References

- [1] M. Benchohra, G. N'Guérékata and N. Rezzoug, *Asymptotic almost automorphic mild solutions of second order nonautonomous semilinear evolution equations*, J. Comput. Anal. Appl. Vol. 293 (2021), 468-493.
- [2] H. Bohr, *Zur theorie der fastperiodischen Funktionen I; II; III*, Acta Mathematica, vol. 45 (1924), 29-127.
- [3] T. Diagana, *Almost Automorphic Type and Almost Periodic Type Functions in Abstract Spaces*, Springer, New York, 2013.
- [4] N. Ikhlef, N. Rezoug, A. Salim, M. Benchohra, S. Litimein, *On asymptotically almost automorphic mild solutions for semilinear integro-differential evolution equations*, J. Math. Extension vol. 17, no. 10 (2023), 1-30.
- [5] N. Ikhlef, A. Bensalem, A. Salim, M. Benchohra, S. Litimein, *On PC-asymptotically almost automorphic mild solutions for impulsive integro-differential equations with nonlocal conditions*, Studia Univ. Babes-Bolyai Math. (to appear).

- [6] N. Rezoug, A. Salim, M. Benchohra, *Asymptotically almost automorphy for impulsive integrodifferential evolution equations with Infinite time delay via Monch fixed point*, Evol. Equ. Control Theory (to appear).