

Almost periodic functions revisited

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In the beginnings of the twentieth century, Harald Bohr (1887-1951) gave important steps in the understanding of Dirichlet series and their regions of convergence, uniform convergence and absolute convergence. As a result of his investigations concerning those functions which could be represented by a Dirichlet series, he developed in its main features the theory of almost periodic functions (both for functions of a real variable and for the case of a complex variable). Based on a new equivalence relation on these classes of functions, in this talk we will refine Bochner's result that characterizes the property of almost periodicity in the Bohr's sense. Furthermore, we will present a thorough extension of Bohr's equivalence theorem which states that two equivalent almost periodic functions take the same set of values on every open half-plane or open vertical strip included in their common region of almost periodicity.