

# Variants and Extensions of the Concept of Almost Periodicity in the complex plane

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**Resumen.** We develop the concepts of semi- $c$ -periodicity,  $c$ -uniform recurrence and almost automorphy for functions defined on vertical strips in the complex plane, where  $c$  is a non-zero complex number. As an extension of the study performed for functions defined on the real axis, this work aims to investigate the main properties of these classes of functions and establish their connections with the more known class of  $c$ -almost periodic functions defined on vertical strips. In fact, we resolve an open problem which was raised in 2020 for the real case.

**Palabras clave:** Almost periodicity; Semi- $c$ -periodicity;  $c$ -uniform recurrence; Almost automorphy;  $c$ -almost periodicity.

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**Agradecimientos.** J. M. Sepulcre's research was partially supported by the Ministry of Science, Innovation and Universities of Spain and the European Regional Development Fund (ERDF) of the European Commission under project number PID2022-136399NB-C21.

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