

The generalized strong recurrence and the Riemann hypothesis

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The strong recurrence is equivalent to the Riemann hypothesis. The speaker proved the generalized strong recurrence for not only almost all real numbers but also every algebraic irrational number. Afterwards, Pańkowski showed the generalized strong recurrence for any irrational number. Recently, Garunkštis and the speaker proved the generalized strong recurrence for any non-zero rational number, independently.

In this talk, we show the generalized strong recurrence in the region of absolute convergence for all real numbers. By using it, we sketch a proof of the generalized strong recurrence for any non-zero number. Then we introduce the Selberg class and the Steuding class. Finally, we state the generalized strong recurrence for these classes.