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LUSIN'S PROBLEM

N. Lusin was the leader of the Moscow school of real analysis. Among the many fine mathematicians who were his students we mention three greats: Khintchine, Souslin, and Menchov.

Lusin is famous for what are known as Lusin's theorem and Lusin's conjecture. This talk is concerned with Lusin's problem.

In 1915, Lusin asked whether or not, for every measurable real function f , finite or infinite on $[-\pi, \pi)$, there is a trigonometric series, with terms going to zero, which converges almost everywhere to f . Lusin solved this problem for the finite case using certain summability methods.

The problem was solved for the finite case, using ordinary convergence, in 1940 by Menchov. In 1950, Menchov solved the problem for functions, finite or infinite, using convergence in measure.

Further and related results by Talayan, Goffman, and others, are discussed.