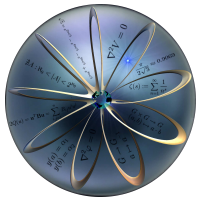

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Vitali's Theorem

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There exists a set $V \subset [0,1]$ which is not Lebesgue measurable. Notice that this result requires the Axiom of Choice.