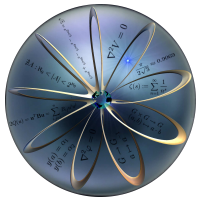

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Weierstrass M-test

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Let X be any set, $\{f_n\}_{n\in\mathbb{N}}$ a sequence of real or complex valued functions on X and $\{M_n\}_{n\in\mathbb{N}}$ a sequence of non-negative real numbers. Suppose that, for each $n \in \mathbb{N}$ and $x \in X$, we have $|f_n(x)| \leq M_n$. Then $f = \sum_{n=1}^{\infty} f_n$ converges uniformly if $\sum_{n=1}^{\infty} M_n$ converges.