Density by moduli and statistical convergence

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By using modulus functions we introduce a new concept of density for subsets of $\mathbb{N}$ and $\mathbb{N}^2$. Consequently, we obtain a generalization of the notion of statistical convergence which is studied and characterized. As an application, we prove that the ordinary convergence and 'Pringsheim convergence', respectively, are equivalent to 'module statistical convergence for every unbounded modulus function'.

Keywords. Density; modulus function; statistical convergence.

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