Abstract Submitted
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An Introduction to Neutrosophic Measure FLORENTIN SMARANDACHE, University of Mew Mexico — We introduce for the first time the scientific notion of neutrosophic measure. Let Xbe a neutrosophic set, and Σ a σ-neutrosophic algebra over X. A neutrosophic measure ν is defined by $\nu : X \to \mathrm{R}^2$, where ν is a function that satisfies the following properties: Null empty set:$\nu(\Phi) = (0, 0)$ and Countable additivity (or σ-additivity): For all countable collections $\{A_n\}_{n \in L}$ of disjoint neutrosophic sets in Σ, one has:

$$\nu\left(\bigcup_{n\in L} A_n\right) = \left(\sum_{n\in L} m\left(determ\left(A_n\right)\right),\ \sum_{n\in L} m\left(indeterm\left(A_n\right)\right)\right)$$

$$\nu(A) = (measure\ (determ\,part\,of\ A)\,,\ measure\ (indeterm\,part\,of\ A))$$

The neutrosophic measure is practically a double classical measure: a classical measure of the determinate part of a neutrosophic object, and another classical measure of the indeterminate part of the same neutrosophic object. Of course, if the indeterminate part does not exist (or its measure is zero), the neutrosophic measure is reduced to the classical measure. An approximate number N can be interpreted as a neutrosophic measure $N = d + i$, where d is its determinate part and i its indeterminate part. For example if we don't know exactly a quantity q, but only that it is between let's say $q \in [0.8, 0.9]$, then $q = 0.8 + i$, where 0.8 is the determinate part of q, and its indeterminate part $i \in [0, 0.1]$.

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