عنوان مقاله:

Upper Limit of Truncation Errors of Expressing the Real Numbers, Modeling & the Exact Solution

محل انتشار:

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خلاصه مقاله:

Limited accuracy of measurement methods & finitude of computational resources are the core of logically contradicted approaches to express the resulted real numbers. The first one causes an unbounded increase in deviation of expressed number, in respect with its exact value, as the number greatens. On the other hand, the quantization method produces constant error, but the larger expressed numbers are less accurate. To answer the question of which one is more suitable to be used in practice , the upper limit of these two errors, ET&EM, are parametrically calculated & figuratively represented. Using a semi-factual dataset, the convergence of theoretical predictions to the reality is discussed. Finally the inability of measurement method to preserve an almost constant normalized truncation error is proved.

کلمات کلیدی:

Quantization Error, Measurement, Truncation Error, Accuracy, Scaling

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