possess not well-known mathematical functions or phenomena with random behaviors.

Unlike the elegant theories associated with their sophisticated validation experimental sets, the investigation in numerical modeling does not allow as largescale consequent added continuous inventions.

5. Conclusions

In the present study, we evaluated the concept of elegance in theories. The analysis of the character of these theories has highlighted their beneficial aspect allowing for future research. At the same time, such a character has been found not to be suitable for application on realistic operating systems. We have proposed to take into account the hypotheses idealizing intelligent theories by modifying their models to address realistic situations. These improved models combine the idealized model resulting from the theory with those representing the abandoned phenomena in view of elegance. We have considered the example of electromagnetic systems to illustrate such an approach. A major review of the construction strategies of the improved realistic models in this case was carried out. Analysis of these modified realistic models illustrates their crucial importance in designing real systems for everyday applications. However, in this case, the aspect allowing for future investigations is not as ambitious as in the case of intelligent theories.

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