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Proposing a robustness index for Emergy Accounting

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Abstract

The robustness of a scientific method must be investigated with the aim of identifying the main variables or factors that influence its results or answers. A method is considered robust if insensitive to deviations of the suppositions it bases itself upon. This study proposes an equation capable of assessing the robustness of emergy accounting, with the aim of establishing parameters and identifying factors that can affect results obtained when using the method. Emergy environmental accounting is used to assess the use of resources in the production of a product or service. It is an innovative method, however, it still lacks standardization of evaluation procedures. An equation to identify the robustness of a group of systems and the emergy ternary diagram to present the results were used in this study. Results obtained from applying the equation to a group of systems were compatible with their dispersion in the emergy ternary diagram. The area defined on the diagram can indicate the probable interval in which future studies will have their results inserted. That is due to the fact that the inflows necessary for the production of a product or service direct a given system and are, basically, the same for similar systems.

Keywords: *emergy, ternary diagram, robustness, robustness index*
