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CALCULATION OF THE EFFECT OF MULTIPLE POLLUTION, SPECIFIC ENERGY PARTICIPATION, SYNERGISTIC EFFECTS

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Abstract

Superposition and/or cumulation of loads of any kind on matter, in general, is a difficult problem, especially in the case of: - its nonlinear behavior; - the loading with loads of different nature, which cannot be added algebraically, because they are measured with different units of measure. Such a situation is specific in the case of multiple pollution. In order to solve these problems, it is required to resort to a dimensionless concept, the concept of *specific energy participation*. This is then correlated with the nonlinear power law, behavior of matter. Based on the law of the behavior of matter, it is shown that the synergistic effects, which we also encounter, and in the case of multiple pollution, depend on the exponent in this law. A distinction is made between positive synergy, negative synergy and lack of synergistic effect or neutral synergy. Some practical examples, analyzed based on the results of the paper, show the possibility of calculating the total effect of multiple pollution, which is currently not possible with the data available in the literature.

Key words: loads superposition, multiple pollution, specific energy participation, synergy

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