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The Nature of Mathematical Elements. A First Definition of the Inclusion Function
– A philosophical approach –

Abstract: This article approaches its subject in a philosophical manner. It has as objective to construct a first definition of the inclusion function based on the nature of elements of a set. The analysis is based on the Zermelo–Fraenkel axioms. The study mainly approaches an algebraic content. The interpretation of the construction and definition also requires an epistemological frame. We introduced a function: the "nonhomogeneous choice function". This study is a first step. The next part of the study is the second definition of the inclusion function, with applications in interpretations on the nature of mathematical elements in the extensions of fields and in the splitting fields.

Keywords: axiom, set, choice function, property of elements, subset, inclusion function, splitting field.