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A class of Boehmians for a recent generalization of Hankel-Clifford transformation of arbitrary order. (English) Zbl 1365.46034

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The smallest generalization of distribution spaces is known as the Boehmians that is initiated by the study of regular operators. The class of Boehmians contains all regular operators, all distributions, and some objects that are neither operators nor distributions. Equations (2) and (3) define the Hankel-Clifford transformation, studied by *J. M. R. Méndez Pérez* and *M. M. Socas Robayna* [J. Math. Anal. Appl. 154, No. 2, 543–557 (1991; Zbl 0746.46031)], which is considered in the present paper. The generalized version of the said transform is given by equations (4) and (5), and its inversion is suggested in equations (6) and (7). Boehmian spaces of arbitrary order and their convergence are studied in Section 2. The generalized Hankel-Clifford transformation of arbitrary order is studied in Section 3, where Theorem 15 represents an isomorphism mapping and convergence (the so-called and well-known δ (delta) and Δ (cap. delta)-convergence) with respect to a particular Boehmian space for the Hankel-Clifford transformation. Inversions of the same are also discussed. Definitions of Boehmians and terminologies used in the paper are borrowed from some of the fundamental references cited in it.

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MSC:

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