

On contractions and invariants of Leibniz algebras.

Abstract

In this paper, contractions of complex Leibniz algebras are considered. A short summary of the history, relationships of different definitions and comparisons of them are given. We focus on the contractions of three-dimensional case of complex Leibniz algebras. A several contraction invariants that are useful in determining whether one algebra can be obtained as an contraction of another algebra are given.

Keyword: Contraction; Variety of Leibniz algebras; Irreducible component; Degeneration; Rigid algebra.