

## GRAPH VARIETIES AXIOMATIZED BY SEMIMEDIAL, MEDIAL, AND SOME OTHER GROUPOID IDENTITIES

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### Abstract

Directed graphs without multiple edges can be represented as algebras of type  $(2, 0)$ , so-called graph algebras. A graph is said to satisfy an identity if the corresponding graph algebra does, and the set of all graphs satisfying a set of identities is called a graph variety. We describe the graph varieties axiomatized by certain groupoid identities (medial, semimedial, autodistributive, commutative, idempotent, unipotent, zeropotent, alternative).

**Keywords:** graph algebra, groupoid, identities, semimediality, mediality.

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