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

Erkko Lehtonen

Technische Universität Dresden
Institut für Algebra
01062 Dresden, Germany

e-mail: Erkko.Lehtonen@tu-dresden.de

and

Chaowat Manyuen

Department of Mathematics, Faculty of Science
Khon Kaen University
Khon Kaen 40002, Thailand

e-mail: schauwat.manyuen@gmail.com

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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