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The algebraic structure of pseudomeadow

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Abstract: The purpose of this paper is to study the commutative pseudomeadows, the structure which is defined in the same way as commutative meadows, except that the existence of a multiplicative identity is not required. We extend the characterization of finite commutative meadows, given by I. Bethke, P. Rodenburg, and A. Sevenster in their paper (2015), to the case of commutative pseudomeadows with finitely many idempotents. We also extend the well-known characterization of general commutative meadows as the subdirect products of fields to the case of commutative pseudomeadows. Finally, we investigate localizations of commutative pseudomeadows.

Keywords: absolutely flat ring; direct product of fields; idempotent; meadow; pseudomeadow; pseudoring; subdirect product of fields; von Neumann regular ring

AMS Subject Classification: 08B26, 08A70, 08A99, 13M99, 68Q65, 08A05, 08A70

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