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Partial Jordan* triples with grid base.

Proceedings of the International Conference on Jordan Structures (*Málaga*, 1997), 175–184, *Univ. Málaga, Málaga*, 1999.

The work under review is entirely algebraic but its motivation comes from holomorphic classification of bounded circular domains in Banach spaces. To such domains it is possible to assign a certain algebraic structure which is called partial Jordan triple.

One application of partial Jordan triples to holomorphy was the work of D. Panou on bicircular domains in $\mathbf{C}^n$. The cornerstone technical result was a certain injectivity lemma for finite-dimensional triples.

In this very interesting work the present author shows that the Panou lemma does not depend directly on the assumption of finite dimensionality or the presence of the complex field. The author proves that the Panou injectivity lemma is an algebraic fact which works for all fields of characteristic zero and all partial triples (possibly infinite-dimensional over the base field) which can be generated by a system, called weighted grids, of appropriate algebraic elements, called signed tripotents. The proof of this algebraic generalization of Panou's lemma is much longer and more involved than the original version for $\mathbf{C}^n$.

The subject of grid approach to the analysis of Jordan triples started with the very influential monograph of E. Neher. The present author is using a slightly more general definition than the standard one in his arguments. He calls it weighted grid and announces more elaborate analysis of the relation between the weighted grid theory and the classical Neher grid theory in a separate paper.

{For the entire collection see MR1746582 (2000k:00044)}

Reviewed by *Borut Zalar*