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Martindale quotients of quadratic Jordan algebras

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Martindale quotients of linear Jordan systems, introduced by E. García and M. Gómez-Lozano in 2004 are the Jordan version of Martindale systems of symmetric quotients defined and studied by K. McCrimmon in 1989. In terms of those “Jordan Martindale quotients”, Zelmanov’s classification of strongly prime linear Jordan algebras can be viewed in a unified manner rather than distinguishing the PI and non-PI cases.

We introduce Martindale quotients of quadratic Jordan algebras, over arbitrary rings of scalars. Due to its quadratic nature, we cannot use Lie algebras as in the linear case, and only pure Jordan techniques are allowed. Nevertheless we extend most of the linear results and even show the existence of maximal objects. This work has been done jointly with Kevin McCrimmon.