QUADRATIC 2-STEP LIE ALGEBRAS: COMPUTATIONAL ALGORITHMS AND CLASSIFICATION

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In this talk, we introduce a computational method to construct any 2-step nilpotent quadratic algebra of d generators in characteristic 0. Along the talk we show that the key of the classification of this class of metric algebras relies on certain families of skewsymmetric matrices. The results and their proofs lead to a computational algorithm to obtain Lie algebras in this class. Examples for $d \leq 8$ will be given.