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**Short title:** Strict diagonal dominance and a Gersgorin type theorem in Euclidean Jordan algebras.

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**Review text:**

The authors show that if  $(V, \circ, \langle \cdot, \cdot \rangle)$  is a Euclidean Jordan algebra of rank  $r$  and  $x = \sum_{i=1}^r x_i e_i + \sum_{i < j} x_{ij}$  is the Peirce decomposition of  $x$  with respect to a given Jordan frame  $\{e_1, \dots, e_r\}$ , then the strict diagonal dominance condition

$$|x_i| > R_i(x) := \frac{1}{\sqrt{2}\|e_i\|} \left( \sum_{k=1}^{i-1} \|x_{ki}\| + \sum_{j=i+1}^r \|x_{ij}\| \right) \quad \forall i = 1, 2, \dots, r$$

implies the invertibility of  $x$  in  $V$  (this theorem is known in matrix theory as the Levy-Desplanques Theorem). Moreover, for any  $x \in V$ ,

$$\sigma_{sp}(x) \subseteq \bigcup_{i=1}^r \{\lambda \in \mathbb{R} : |\lambda - x_i| \leq R_i(x)\}$$

where  $\sigma_{sp}(x)$  denotes the set of all spectral eigenvalues of  $x \in V$  (Geršgorin Theorem in matrix theory).