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Daniel P. Bossaller* (db684513@ohio.edu) and **Sergio R. Lopez-Permouth** (lopez@ohio.edu). *Algebras With Bases Consisting Solely of Strongly Regular Elements*. Preliminary report.

Various recent papers deal with the so-called “invertible algebras”, those algebras over arbitrary (not necessarily commutative) unital rings which have bases that consist solely of invertible elements. Somewhat surprisingly, many familiar algebras satisfy this property, including all finite dimensional algebras over fields other than \mathbb{F}_2 . A characterization of invertible Leavitt Path Algebras was obtained by López-Permouth and Pilewski. We introduce the concept of a locally invertible algebra, that is, an algebra A having a basis \mathcal{B} such that, for every $b \in \mathcal{B}$, there exists some idempotent e such that b is a unit in the corner ring eAe . We show that this property is equivalent to the property that A has a basis consisting solely of strongly von Neumann regular elements. Among other results, we show that this family of algebras is strictly larger than that of invertible algebras and includes all finite dimensional algebras over arbitrary fields, as well as all clean algebras. Most importantly, the new notion opens this type of inquiry to the consideration of non-unital algebras; we will show various examples of non-unital locally invertible algebras. (Received August 28, 2017)