Stable rank one and Cuntz semigroup regularity

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A unital C*-algebra has stable rank one if its group of invertible elements is norm dense. While this plays an important role for many structural results especially for simple C*-algebras, its interplay with other regularity properties is subtle and somewhat mysterious.

Thiel has shown that if a simple unital C*-algebra has stable rank one and strict comparison of positive elements, then its Cuntz semigroup is almost divisible.

In this talk I will describe a partial converse: strict comparison and almost divisibility together imply stable rank one.

This is joint work in progress with Shirly Geffen.