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Dev R Phulara* (phulara@comcast.net), 2400 Sixth Street, NW, Washington, DC 20059. *A Generalized Central Sets Theorem and Applications.*

The central sets theorem originally proven by H. Furstenberg is a powerful result which is applicable to derive many combinatorial conclusions. Furstenberg's original theorem applied to \mathbb{N} and finitely many sequences in \mathbb{Z} . Some strengthenings of this theorem have been derived first by V. Bergelson and N. Hindman in 1990. Later in 2008, D. De, N. Hindman, and D. Strauss proved a stronger version of central sets theorem for arbitrary semigroups S which applied to all sequences in S . We provide here a generalization of the stronger version and some applications of this new generalization. (Received September 05, 2014)