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Irina Seceleanu* (iseceleanu@bridgew.edu), Bridgewater State University, Department of Mathematics & Computer Science, Hart Hall 216, Bridgewater, MA 2325. *Cyclicity of vectors inducing an orbit with a non-zero limit point.*

Hypercyclicity is the study of linear operators that possess a dense orbit, where we denote the orbit of a vector x under T by $Orb(T, x) = \{x, Tx, T^2x, \dots\}$. Chan and Seceleanu showed if a weighted shift has an orbit with a single non-zero limit point it will also possess a dense orbit, however the orbit with the non-zero limit point may not be dense. We investigate whether the linear span of such an orbit with a non-zero limit point must be dense in the whole space. (Received August 29, 2011)