

1106-VK-2544

Gokul R Kadel*, Cameron University, Department of Mathematical Sciences, 2800 W Gore Blvd, Lawton, OK 73505, and **Kit C Chan**, Bowling Green State University, Department of Mathematics and Statistics, Bowling Green, OH 43402. *Invertible Chaotic Extensions of Operators on Hilbert Subspaces.*

For an operator $A : M \rightarrow M$ on a subspace of an infinite dimensional Hilbert space H , Chan and Turcu showed that there exists an operator $T : H \rightarrow H$ that is chaotic and $T|_M = A$. Such an extension exists only if the subspace M has an infinite codimension in H , i.e., $\dim(H/M) = \infty$. Their extension T has a nontrivial kernel and therefore cannot be invertible. In this talk, we present a result that proves the existence of an invertible operator $T : H \rightarrow H$ that is chaotic and extends A . Moreover, we give a necessary and sufficient condition for the existence of an invertible chaotic extension of an operator on the Hilbert subspace. (Received September 16, 2014)