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Rajagopalan Minakshisundaram, Minakshisundaram Rajagopalan, Department Of Mathematics, Nashville, TN 37209, and Sundaresan Kondagunta*, Kondagunta Sundaresan, Department Of Mathematics, Cleveland State University, Cleveland, OH 44115. Generalized Shifts and Backward shifts on Banach Spees. Preliminary report.

We present several new results and state some unsolved problems. Theorem(1): The property that a Banach space admits a shift (a Backward shift) is not isomorphic invariant. Theorem(2): These properties are not dual to each other. However there is complete duality between these properties in the class of reflexive Banach spaces. Theorem(3): There are examples of Banach Spaces E and F admitting shifts such that there Cartesian product with the supremum norm fails to admit a shift. Seveal results on the existence of shifts and Backward shifts have been obtained. We conclude this abstract stating some unsolved problems. Problem(1) Is there a shift or Backward shift on the Cartesian product of two Banach sequence spaces lp for two different values of p when the product space is equipped with the supremum norm ? Problem(2) If the Banach space C(X) of continuous real valued functions on the Compact Hausdorff space X, with the supremum norm admits a shift must X be separable? (Received September 09, 2000)