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Sam Evens* (sevens@nd.edu), Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556. *Eigenvalue coincidences and K -orbits on the flag variety.*

This talk is based on joint work with Mark Colarusso which relates the Gelfand-Zeitlin integrable system to orbits of $K = GL(n-1) \times GL(1)$ on the flag variety of C^n . For $x \in gl(n)$, let x_{n-1} be its upper left hand $n-1$ by $n-1$ corner. We consider the variety $X_k \in gl(n)$ consisting of matrices x with the property that x and x_{n-1} share at least $n-1$ generalized eigenvalues, counting multiplicity. We show that X_k is a union of irreducible components coming from K -orbits on the flag variety of length $n-k-1$. (Received February 17, 2013)