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Ali Godjali* (godjali@math.wisc.edu), Department of Mathematics, Van Vleck Hall, 480
Lincoln Drive, Madison, WI 53706. *Thin Hessenberg Pairs of Linear Transformations.*

We will discuss a linear algebraic object called a thin Hessenberg pair (or TH pair). Roughly speaking, this is a pair of diagonalizable linear transformations on a nonzero finite-dimensional vector space such that each of which has eigenspaces all of dimension one and each of which acts on the eigenspaces of the other in a certain restricted way.

Given a TH pair, we display several bases for the underlying vector space, with respect to which the matrices representing the pair we find attractive. We give these matrices along with the transition matrices relating the bases. We introduce an "oriented" version of a TH pair called a TH system. We classify the TH systems up to isomorphism. (Received February 15, 2010)