1100-15-21 **Leiba Rodman*** (lxrodm@gmail.com), Department of Mathematics, College of William and Mary, Williamsburg, VA 23187-8795. *Stable invariant subspaces of real, complex, and quaternion matrices.*

An invariant subspace $\mathcal{M}$ of a complex matrix A is said to be *stable* if every nearby (complex) matrix B has an invariant subspace $\mathcal{L}$ close to $\mathcal{M}$. If, more precisely, the distance between $\mathcal{L}$ and $\mathcal{M}$ is on the order of magnitude of $\|B - A\|^{1/m}$, where m is a positive integer, then we say that $\mathcal{M}$ is m-stable. Analogously, stable and m-stable invariant subspaces of real and quaternion matrices are defined. Characterizations of stable and m-stable invariant subspaces of real and complex matrices are well known in the operator theory literature. Recently, results concerning stable and m-stable invariant subspaces of quaternion matrices have been obtained. The talk is intended as a review of several key results concerning stable and m-stable invariant subspaces of real, complex, and quaternion matrices.

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