1011-15-106   **Michael S. Cavers**, **In-Jae Kim**, **Bryan L. Shader** and **Kevin N. Vander Meulen***
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Ancaster, Ontario L9K 1J4, Canada. *On Spectrally Arbitrary Patterns.*

A matrix Q with entries in {+, -, 0} is a sign pattern, and Q is said to be spectrally arbitrary if every self-conjugate set of complex numbers is the spectrum of some real matrix with sign pattern Q. We describe a new family of minimally spectrally arbitrary patterns which is related in part to some previously known spectrally aribtrary patterns. The approach uses the Nilpotent-Jacobian method, but also employs the Intermediate Value Theorem to avoid finding an explicit nilpotent realization of the new pattern. We also describe an open problem of determining a class of patterns which are inertially arbitrary but not spectrally arbitrary. (Received August 19, 2005)