

ICM-9203-29 A Linear Algebra Proof that the Inverse of a Strictly Ultrametric Matrix is a Strictly Diagonally Dominant Stieltjes Matrix, Reinhard Nabben and Richard S. Varga, *SIAM J. Matrix Anal. Appl.*, (to appear).

ABSTRACT: It is well-known that every $n \times n$ Stieltjes matrix has an inverse which is an $n \times n$ nonsingular symmetric matrix with nonnegative entries, and it is also easily seen that the converse of this statement fails in general to be true for $n > 2$. In the preceding paper by S. Martínez, G. Michon, and J. San Martín, such a converse result is in fact shown to be true for the new class of *strictly ultrametric matrices*. Here, we give a simpler proof of their basic result, using more familiar tools from linear algebra.