

# On the spectral condition of rectangular vandermonde matrices

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## Abstract

Let  $V_{n,m}$  be a rectangular  $n \times m$  Vandermonde matrix with real nodes and let the number  $m$  of nodes be greater than the number  $n$  of powers; in this paper we find, under mild restrictions on the nodes, that the behavior of the spectral conditioning of  $V_{n,m}$  for  $m \rightarrow \infty$  is essentially the square root of the conditioning of the Hilbert matrix of order  $n$ .

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