

The condition number of Vandermonde matrices with clustered nodes

DOMINIK NAGEL

Universität Osnabrück

The condition number of rectangular Vandermonde matrices with nodes on the complex unit circle is important for the stability analysis of algorithms that solve the trigonometric moment problem, e.g. Prony's method, ESPRIT. In the univariate case and with well separated nodes, the condition number is well studied, but when nodes are close together, it gets more complicated. After providing a short survey over recent developments, our own results, in particular estimates for the multivariate case, are presented.