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**David P Kimsey\*** ([kimsey@ncl.ac.uk](mailto:kimsey@ncl.ac.uk)). *On a minimal solution of the indefinite multidimensional truncated moment problem.*

We will consider the the indefinite multidimensional truncated moment problem. Necessary and sufficient conditions for a given truncated multisequence to have a signed representing measure  $\mu$  with  $\text{card supp } \mu$  as small as possible are given by the existence of a rank preserving extension of a multivariate Hankel matrix built from the given truncated multisequence such that the corresponding polynomial ideal is real radical. This result is a special case of a more general characterisation of truncated multisequences with a minimal complex representing measure whose support is symmetric about the real axis (which we will call *quasi-complex*). One motivation for our results is the fact that positive semidefinite truncated multisequence need not have a positive representing measure. Thus, our main result gives the potential for computing a signed representing measure  $\mu = \mu_+ - \mu_-$ , where  $\text{card supp } \mu_-$  is potentially small. We will illustrate this point on concrete examples. (Received September 17, 2018)