Regularity for powers of ideals of maximal minors

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The Castelnuovo-Mumford regularity of the powers I^h of a homogeneous ideal I in the polynomial ring is asymptotically a linear function in h. Clearly $reg(I^h)$ is at least hm where m is the smallest degree of a generator of I. We say that I has linear powers if $reg(I^h) = hm$, that is, if all the powers of I have a linear resolution. We show that the ideal of maximal minors of a sufficiently general matrix with linear entries has linear powers. In particular we prove that every rational normal scroll has linear powers. This is a joint work with Winfried Bruns and Matteo Varbaro, see arXiv :1203.1776.