

# Nearest Rank Deficient Matrix Polynomials.

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## Abstract

Various characterizations of rank deficient square matrix polynomials will be discussed in this talk with particular emphasis on the singular or non-regular matrix polynomials. These characterizations lead to expressions for the distance from a given full rank matrix polynomial to a nearest matrix polynomial with a prescribed upper bound on its rank. There will be special emphasis on the distance to a nearest singular or non-regular matrix polynomial and its various upper and lower bounds.