

This is a review text file submitted electronically to MR.

Reviewer: Znojil, Miloslav

Reviewer number:

Address:

NPI ASCR,
250 68 Rez,
Czech Republic
znojil@ujf.cas.cz

Author: Raissoulli, M.; Kacha, A.; Salhi, S.

Short title: Continued fraction expansions of real powers of positive definite matrices with applications to matrix means.

MR Number: 2220054

Primary classification: 40A15

Secondary classification(s): 47A58; 41A20;

Review text:

In practical numerical calculations as well as in their various applications, the replacement of a truncated Taylor series by its continued-fraction or Padé-approximation equivalent proves to have certain specific merits. The authors extend this idea from the real numbers to matrices and describe the pattern and illustrate the efficiency of its application using a sample of examples ranging from the evaluation of a real power or of a geometric mean of a matrix to the solution of a cubic matrix equation.