
Melina A. Freitag
**Rayleigh Quotient iteration and simplified
Jacobi-Davidson method with preconditioned iterative
solves.**

Dept. of Mathematical Sciences
University of Bath
Claverton Down
Bath BA2 7AY, UK
`m.freitag@maths.bath.ac.uk`
Alastair Spence

We show that for the non-Hermitian eigenvalue problem simplified Jacobi-Davidson with preconditioned iterative solves is equivalent to inexact Rayleigh quotient iteration where the preconditioner is altered by a simple rank change. This extends existing equivalence results to the case of preconditioned iterative solves. Numerical experiments are shown to agree with the theory.