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Jan S. Hesthaven
Editor-in-Chief
SIAM Journal on Scientific Computing

Dear Dr. Hesthaven:

I am writing to submit our manuscript entitled, "Mixed-Precision analysis of Householder QR Algorithms" for consideration as an article in *SIAM Journal on Scientific Computing*.

This work discusses several aspects of using mixed-precision arithmetic: (i) new error analysis that can more accurately describe round-off errors in mixed-precision arithmetic than existing analyses, (ii) evidence that algorithms can be designed to be more resistant against lower numerical stability associated with lower precision types, and (iii) an example outside of machine learning where mixed-precision implementation performs as sufficiently as double-precision implementations. Our results suggest that instabilities resulting from low precision arithmetic can be mitigated to an extent, and should be considered for use for a wider set of applications.

Sincerely,

Lucia Minah Yang