

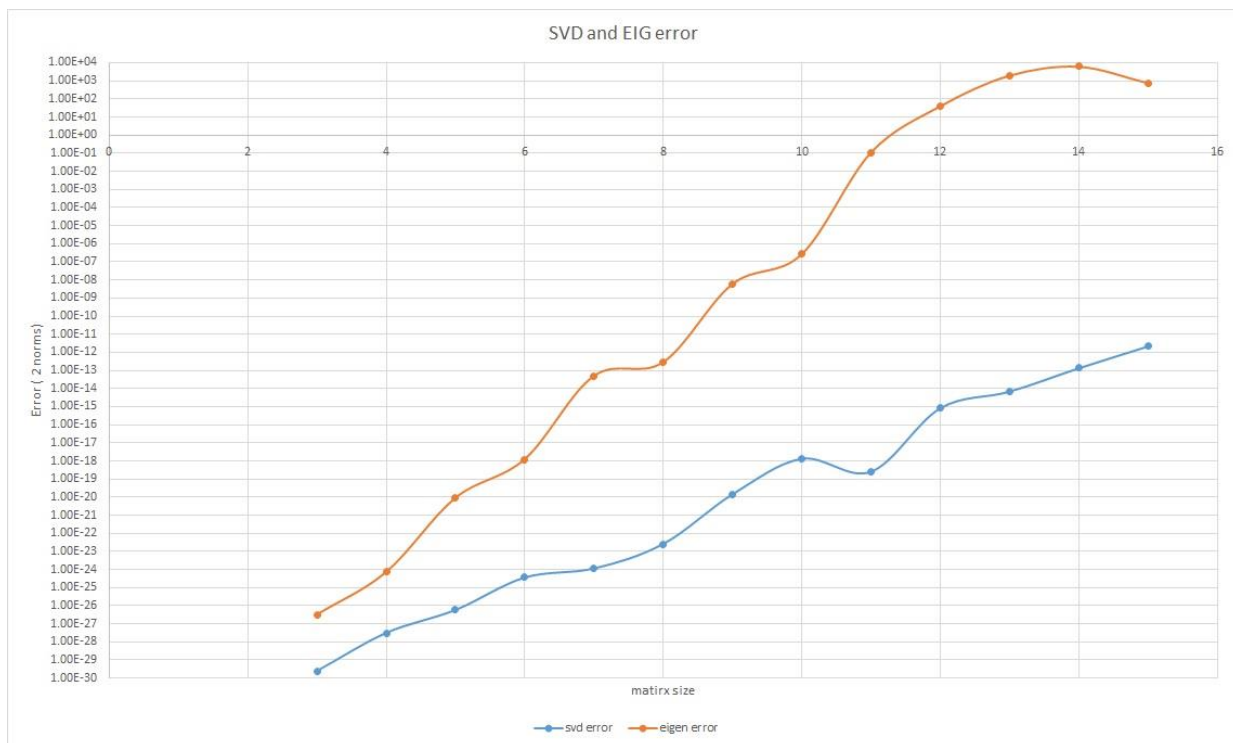
AMS 526

Homework 5

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Report



Orange curve: Eigenvalue error

Blue curve: SVD error

- **Observation**
 - **Orange curve**
 - The curve goes up smoothly and the highest point reaches around $1.00E+4$
 - **Blue curve**
 - The curve goes up smoothly with the highest reaches $1.00E-11$, and the curve dropped a little bit when the matrix is a 11x22 matrix.
- **Comparison**
 - The blue curve has a smaller slope than the orange one, and the error value of the blue curve is always smaller than the error value we got from the orange curve.
- **Conclusion**
 - **SVD** is more stable and accurate than the **Eigenvalue Decomposition**, which satisfied the with the textbook result.