Reproducibility - HODLRdD: A new Black-box fast algorithm for N-body problems in d-dimensions with guaranteed error bounds

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This document helps in reproducing the tables and figures provided in the article titled "HODLRdD: A new Black-box fast algorithm for N-body problems in d-dimensions with guaranteed error bounds" (from now on referred to as HODLRdD article).

1 Numerical rank growth with N in different dimension

This section explains how to obtain the Figures (5.2), (5.6), (5.10), (5.11) and (5.12) from the "HODLRdD" article.

2 HODLRdD fast matrix-vector product

This section explains how to obtain the plot numbered Figure (7.1) from the "HODLRdD" article.

3 HODLRdD accelerated iterative solver for integral equations in d dimensions

This section explains how to obtain the plot numbered Figure (7.2) from the "HODLRdD" article.

4 HODLRdD accelerated classical kernel SVM with d features

4.1 Dataset Generation

This section explains how to generate the synthetic dataset.

4.2 HODLR4D - example

This section explains the process of obtaining the values in Table (7.3) from the "HODLRdD" article.

4.3 HODLR5D - example

This section explains the process of obtaining the values in Table (7.4) from the "HODLRdD" article.