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Title: Improving the model in a hierarchy of libraries for self-optimization

Abstract: The design of hierarchies of libraries helps to obtain modular and efficient sets of routines to solve problems of specific fields. An example is ScaLAPACK's hierarchy in the field of parallel linear algebra. The inclusion of self-optimization techniques in the hierarchy facilitates the efficient execution of these routines to non experts users. Our technique of self-optimization is based on the modellisation of the execution time of each routine, using information generated by routines from lower levels of the hierarchy. However, sometimes the information generated at one level is not accurate enough to be used satisfactorily at higher levels. Therefore, a remodelling of the routines is performed by using (applied appropriately) polynomial regression. In this talk, a remodelling phase is proposed, and analysed with routines of dense linear algebra.

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