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Generic data structures for algebraic multigrid methods applied to PDE systems

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In this talk we present generic matrix and vector data structures supporting a recursive block structure. Using these it is easy to resemble structural information of PDE systems in different ways (e.g. variable-to-unknown mappings, variable-to-point mappings).

We will show that this allows for natural and efficient generic implementation of aggregation based algebraic multigrid methods for PDE systems.