A hybrid DG space-time method

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DG space-time methods have been applied to several model problems in the last view years. In this talk we consider the time dependent heat equation as a model problem. For a spatial domain $\Omega \in \mathbb{R}^d, d = 1, 2, 3$ the heat equation will be discretized in the space time cylinder $Q = \Omega \times (0, T) \in \mathbb{R}^{d+1}$. This approach results in a large system of linear equations. To handle such a large system, a hybrid version in the space time domain will be presented. This approach allows the application of parallel solution algorithms to solve the large system of linear equations.

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