Non-symmetric coupling of finite and boundary element methods for the heat equation

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We present some coupling formulations of continuous and discontinuous Galerkin finite element methods with boundary element methods for the heat equation. In particular, we consider the non-symmetric coupling. This enables us to use even discontinuous basis functions on the interface between the subdomains represented by the finite element and boundary element methods while other formulations require continuity. We will address the error and stability analysis and show the stability and efficiency of the proposed approach for some numerical examples.

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