

Applications of bi-orthogonal systems for the virtual element method

In this talk, I will present two applications of bi-orthogonal systems in virtual element method. In the first example, I will present a numerical method to perform gradient recovery using bi-orthogonal systems. In the second example, I will derive an efficient mixed virtual element method based on the Ciarlet–Raviart formulation using bi-orthogonal systems. Finally, I will present numerical results for both the examples and validate the theoretical results.