

## Level set methods in inverse problems and optimal design

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This talk is about the use of level set methods in computational problems involving variational formulations. Examples will be given in inverse problems and optimal design. Much of our effort has been focused on the development of computational techniques for specific applications. The applications include designing structures with desired resonance properties, and inverse problems involving geometry. Detail descriptions of these problems and their numerical solutions will be provided. We will also highlight interesting mathematical issues we have not addressed.