Level Set Strategy for Polymer Field Theory  
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I will talk about how level set methods can be used to design and develop new algorithms for self-consistent field theory (SCFT) in polymer physics. We first present a computational framework, encoded on a forest of quad/oct trees in a parallel environment. We then introduce the concept of functional level-set derivative into SCFT which is then used to embed SCFT into a variable shape simulation. Finally an algorithm for the inverse geometric problem is presented: it finds a shape in order to obtain a desired structure.