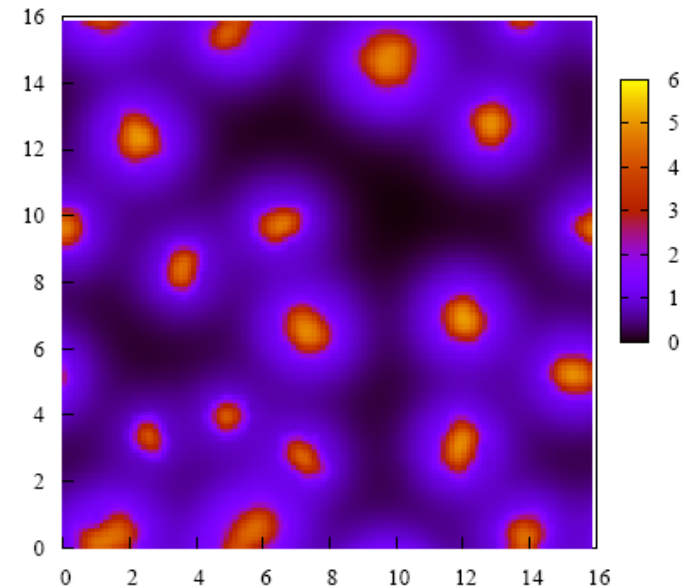


# Simulating Polymer Materials with Fields

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Polymers are key ingredients in many soft material formulations including plastics, personal care products, and processed foods. Computer simulations of these materials are difficult because structure is present on a wide range of scales. We have found that the use of continuous potential *fields*, rather than atomic coordinates, provides a powerful framework to carry out computer simulations of these “complex fluids”. Field-based simulation techniques can be used to discover fascinating structures in exciting new types of soft materials, such as this “core-micelle coacervate” structure produced by mixing cationic and anionic block copolymers.



*The Equilibrium Theory of Inhomogeneous Polymers (Oxford, 2006)*