"The large d approximation strategy in liquids and glasses"

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Abstract

A difficulty in theoretical physics that is often encountered is the absence of small parameters. An often used remedy to this situation is to promote the system to d dimensions, solve the large d limit, and (eventually) expand around. This strategy has been used with success in several fields, most notably strongly coupled electrons, atomic physics and gauge theory. A recent promising development is the large d theory of liquids and glasses, in and out of equilibrium. I will describe the basic ideas and if (and how) the results match our previous understanding of these systems.