

Comparing shapes of genus zero

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Almost everything we encounter in our 3-dimensional world is a surface - the outside of a solid object. Moreover there is an explosive increase in the availability of digitized representations of surfaces in 3D. Comparing the shapes of surfaces is, not surprisingly, a fundamental problem in both theoretical and applied mathematics. Deep mathematical results are now being used to study objects such as bones, brain cortices, proteins and biomolecules. This talk will discuss recent joint work with Patrice Koehl in this area that introduces a new metric on the space of genus-zero surfaces.