

Heart-Motion Deformetrics

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Deformetrics is a newly coined word that stands for *metrics of deformation* and which encompasses the many mathematical tools used in Shape Analysis to compare biological shapes and to quantify their differences. Among these tools, a prominent role is played by differential geometry and statistics.

Here we present an appropriate definition of parallel transport along the geodesics of the Size-and-Shape Space that enable shape analysis with the possibility of comparing not only different shapes but also different motions.

Our goal is to compare the motion of a same organ, the human heart, from different individuals, and to assess the differences in the cardiac revolution by filtering inter-individual shape differences.

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