

Visualization of the difference between two triangle meshes is useful in geometric morphometrics where the shapes of biological objects such as bones, facial symmetries and others are studied. Existing visualizations are mostly done by encoding various difference metrics into vertex color. However, this one-dimensional information is not enough to display multiple metrics at the same time. To overcome this limitation, we implemented an algorithm which employs the techniques of vector field visualization and uses clustered 3D arrows to encode the metrics. Focusing on visual appearance, we applied it in several types of visualizations in an experimental application called MeshDiff. We also conducted a user study of both existing and new visualizations to compare their performance in various use cases and investigate the possibilities for future improvement.