

¿Cómo el método propuesto elimina la necesidad de la triangulación y a su vez contribuye a suavizar y mejora la deformación del esqueleto o escultura?

The Laplacian operator works directly over hybrid meshes.

The Laplacian operator permits to smoothing and other applications independently of the discretization version used.

There are no results in terms of computational time or complexity?

The time complexity of the Laplacian operator at one vertex is the number of neighbors multiplied by a constant and this value is multiplied for the number of vertices then, the time complexity of this operator is the lineal order

The time complexity to resolve the different linear systems exposed for different application round $O(n^3)$ in a pre conjugate gradient solver like SupeLu that is the solver that we use.

Are the results of laplace based operations on quad meshes different from the results for the same object on a triangular mesh?

Yes because the vertices are in the same position but the connectivity between them is different and the discrete Laplacian operator compute the curvature based on the positions and connectivity.

How do you evaluate that the results for both type of meshes (same object) are the same??

We use an implicit surface and calculate the Laplacian of theoretical way, then discretized and calculated with the proposed operator and compared the results

Which is the problem with the other methods?

The other methods can not compute the Laplacian operator on hybrid meshes

Since these conditions are quite restrictive, in what kind of meshes this proposal might fail?

In non-manifold geometry meshes

That is polygon meshes that are not homomorphic to 2-Dimensional Euclidean space.

Meshes with holes, and meshes with edges shared for more than two faces.

And vertex with more than 1 ring of neighbors.

- Everyone that have some experience working with 3D modeling may notice the great importance of quad or hybrid quad mesh in terms of realism and performance, my question: About this specific topic mention 3 specific contributions of your work.?

Delete the need to preprocess the mesh the triangulation phase.

It expands the set of meshes with which you can work.

Modeling time decreases because the Laplacian is calculated directly over the meshes

why do you want to adapt a laplacian operator, which is your hypothesis?

To reduce modeling time and expand the set of meshes that we can process with Laplacian operator