

Preliminary Results

Here we present some preliminary results to show that our method proposed in this proposal can capture the movements of textures in Cilia videos. In the following images, a 29 x 29 pixel region in the texture is arbitrarily chosen (red point shows the centre of the region). Our method proposed in this document is applied to a cilia video clip to follow the texture movement in the next frames. The red points shown in all images in this document shows the location of the centre of this region. In these images, the white line shows the trajectory of the movement of the centre of the region, which are already calculated by our method by using the previous frames (not shown in this document). The Markovian neighbourhood is 5 x 5. The GMRF parameters associated with 29 x 29 pixels are used to find the best match in the next frame.

Please note in the following images:

- 1) Our proposed method has only been applied to one point of interest in the texture as an example. However our algorithm needs to be applied to all the points of interest.
- 2) The texture tracking shows promising results as demonstrated in the following images. However these results have been achieved by considering the minimisation of only D1 distance. However the results will be more robust if minimisations of D1 and D2 together are considered (please refer to the case for support document for more clarifications for D1 and D2 distances).
- 3) Images have been resized to fit this document.



















