We propose a method for tracking moving objects and extract their contours in image sequences. In this method, we construct a new energy function by prior knowledge of temporal shape changes. The object contours are estimated by minimizing this energy iteratively according to the change of the energy function itself. Finally, we made experiments to confirm effectiveness of this method.

In this paper we took some image sequences and compared the results of experiments of the feature point tracking. We obtained correct correspondences with high probability in methods by using geometric constraint. But the number of correspondences was small. On the other hand, we obtained many correct correspondences and some incorrect correspondences in method by using the affine space constraint.

We consider a problem of recovering motion of rigid bodies moving in space under perspective stereo vision. In particular, the position and the so-called motion parameters of the body are identified by employing an extended Kalman filter. It is shown, by numerical simulations, that the recursive algorithm is effective even when the feature point is occluded.

This paper presents a motion capture system based on uncalibrated cameras. Unlike various existing motion capture systems, the present system eliminates camera calibration process. This makes the proposed system easier in capturing images of an object than other motion capture systems that need camera calibration. The system is an online system including an automatic feature points tracking procedure. F cameras are linked to F personal computers respectively and they capture images of a person in motion. Color feature points attached on the person are tracked automatically on the obtained video images taking mutual distances into account. The F personal computers transfer the feature points’ image coordinates through a local area network to a main computer and the main computer performs 3-D recovery calculation and displays the recovered 3-D human motion. The proposed system shows satisfactory performance in the experiment carried out.