STEREO−BASED ELLIPTICAL HEAD TRACKING (ThuPmOR11)

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Abstract :

A novel algorithm for head−tracking based on stereo is presented in this paper. Employing stereo vision makes the tracker robust to many factors such as clutter, color and lighting variations, that affect contemporary head trackers. The head is modeled as an ellipse and tracking is performed on the foreground obtained by modeling depth. This is facilitated by using stereo vision. Further, we present a simple head size estimation technique that is critical for modeling considerable motion by the subject. The results obtained demonstrate the robustness of the head tracker and the accuracy of the head−size estimation technique. This would find extensive use in speaker tracking in smart rooms.

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