Recent developments in video technology enable us to view wider field-of-view (FOV) images using wide flat-panel displays, as one would a television monitor. New video systems with high resolution beyond HDTV have been proposed, but it is not clear that their motion picture quality will be sufficient if traditional video system frame rates are used. In the assessment of picture quality, it is recommended to screen viewers’ static visual acuity (SVA), but not their dynamic visual acuity (DVA). Furthermore, the methodology to measure the DVA appropriate for the participants in such an assessment of picture quality has not yet been clearly established. In this paper, we have studied, experimentally, the changes in DVA performance by looking at differences in DVA measurement conditions as the first step to establish the methodology. We successfully verified the improvement of DVA performance in binocular viewing compared to monocular viewing. We also looked at the differences in DVA performance as a function of viewing conditions, including eye rotation direction (nasal or temporal direction), shape of the visual target (a Landolt C or E chart), ocular dominance (dominant or non-dominant eye), and the anisotropy or the difference in target orientation of a laterally moving target.

We describe a method that can detect specific human behaviors even in crowded surveillance video scenes. Our developed system recognizes specific behaviors based on the trajectories created by detecting and tracking people in a video. It detects people using an HOG descriptor and SVM classifier, and it tracks the regions by calculating the two-dimensional color histograms. Our system identifies several specific human behaviors, such as running and meeting, by analyzing the similarities to the reference trajectory of each behavior. Verification techniques such as backward tracking and calculating optical flows contributed to robust recognition. Comparative experiments showed that our system could track people more robustly than a baseline tracking algorithm even in crowded scenes. Our system precisely identified specific behaviors and achieved first place for detecting running people in the TRECVID 2009 Surveillance Event Detection Task.