Evaluation of affluent quality of facial expression under makeup by means of optical flow analysis

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In this study, a new image processing system was developed for evaluation of cosmetic efficacy of facial makeup which is very important to make better feeling, to evoke mental relaxation, to increase positive attitude, and so on. Use of rouge, eye shadow, and face powder makes large gradation, shade increasing, remarkable concave-convex figure on face so that facial expression may be recognized to be largely moved in the visual cognitive brain system.

Facial movement was obtained by using optical flow calculation algorithm to identify the direction of facial movement of various facial expressions. The optical flow indicates apparent velocity of moving object in two image sequences. Affluent quality of facial expression after makeup was evaluated from inspection of degree of optical flow and also evaluated effect of the facial makeup in comparison with those before makeup in this study. As the results, optical flow analysis of facial expression showed that facial makeup brings pleasant outward looks widely and great facial neural- muscular activities affluently.