Abstract

Pavement skid resistance is the resistive force generated by tyre-pavement interaction under a non-rotating wheel condition. Skid resistance plays an important role in keeping vehicle safe under braking conditions, as well as during maneuvering on a horizontally-curved road. In this study, skid resistance measurements are taken on some selected points using British pendulum tester along eight different directions (with respect to traffic movement). It is observed that the skid resistance values along different directions are different. Further, pavement surface images are acquired on those points using stereo photogrammetry technique. Three dimensional (3-D) pavement surface profile (of those points) are reconstructed from the photogrammetry data. The surface profile information is processed in spatial frequency domain using Fast Fourier Transformation (FFT). The parameters from the FFT plots are compared with the skid resistance values observed along different directions.

Key words: Directional skid resistance, British pendulum tester, Stereo photogrammetry, Pavement surface profile, Frequency domain, Fast Fourier transformation