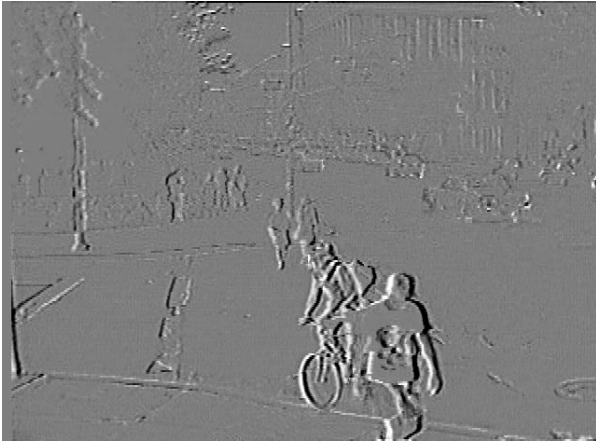Fig.6a: An intra-coded frame in the left sequence

Fig.6b: The corresponding right frame estimated from the left

Fig.6c: Frame difference (Disparity) between the two corresponding frames

level shifted by 128

Fig.6d: Error in right frame after low resolution disparity compensation

scaled by 1.5 and shifted by 128

Notice that fig.6b is not as sharp as fig.6a because of the low resolution disparity estimation. Yet, figures 6a and 6b together give good depth perception when viewed stereoscopically. The high frequencies lost in fig.6b appear as large errors in fig.6d. The left and right frames are offset temporally by 1/60th of a second due to the interlaced scanning mode used in the 3D camera system. Figure 6c shows the disparity after compensating for the temporal skew. Binocular disparity decreases with the increasing distance of objects from the camera.

Fig.7a: Frame difference between a T2 and a B frame

scaled by 0.5 and level shifted by 128

Fig.7b: Bidirectionally predicted T2-frame

% of blocks intra-coded = 1.7   PSNR = 30.8dB

Figure 7a shows the displacement between two frames that are temporally offset by 2 frames. Figure 7b illustrates the effectiveness of the motion prediction. Though more than 15% of the blocks undergo significant displacements, only 1.7% of the blocks needed to be intra-coded.