Abstract

Motion estimation technique is the most vital component of any video coding standard. Therefore, development of an efficient method for fast motion estimation is the basic requirement of the video encoder design. Block based motion estimation algorithms are used to reduce the memory requirements of any video file and also decrease computational complexity. Motivated by the specific requirements of motion estimation, a variety of algorithms have been developed. In this paper, we have discussed the commonly used motion estimation algorithms such as- Full Search (FS), Three-Step Search (TSS), New Three-Step Search (NTSS), Four-Step Search (FSS), Diamond Search Algorithm (DS), and Hexagon Based Search Algorithm (HEXBS). We have also analyzed these techniques by using Peak Signal to Noise Ratio (PSNR) values.

References

- Lai-Man Po, Wing-Chung Ma, "A Novel Four-Step Search Algorithm for Fast Block Motion Estimation," IEEE Transactions on Circuits and Systems for Video Technology,
Survey on Block Matching Algorithms for Motion Estimation


Index Terms

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Motion Estimation  Block Matching  Motion Vector And Block Distortion Measure.