

## **Block Matching Algorithm (BMA) of the Hybrid Adaptive Rood Pattern Search (ARPS) Based on Its Motion Speed**

### **ABSTRACT**

There are several numbers famous proposed Block Matching Algorithm (BMA) in video coding technique and among it, the ARPS is a well known BMA technique that produce lower computational complexity and higher quality of the encoded video at the same time. In general, a video will has a lot of temporal redundancy among its neighborhood frames especially for a low motion video which make encoding a low motion video with smaller MB and bigger  $p$  size seemed impractical and vice versa. In this paper, the hybrid version of ARPS technique is used depending on its motion video type either low, medium, or high motion video. Basically this hybrid model works by setting the Macro Block (MB) and Search Range Size,  $p$  according to the motion type. Low motion video will be use higher size of MB and smaller size of  $p$ , medium motion has medium size of MB and  $p$ , and high or fast motion video will use smaller MB and bigger  $p$  size. The experimental result shows that by using the hybrid BMA technique, it can produce a better quality of the constructed frame and also it achieve less computational complexity at the same time.