The image contains a detailed diagram of a video compression process, specifically focusing on motion estimation and compensation. The diagram illustrates the use of reference macroblocks and predicting macroblocks to reduce the amount of data that needs to be transmitted or stored. The diagram shows two main scenarios:

(a) Reusing within a search region
- Reference macroblock A
- Predicting macroblock B

(b) Reusing among search regions
- Reference macroblock C
- Predicting macroblock D

The diagram also includes a graph showing the prediction error (MSE) vs. the number of MADs ( Mean Absolute Differences) for different values of n and m.

In the context of video compression, this diagram highlights the efficiency of motion estimation and compensation in reducing redundancy, which is crucial for applications such as streaming video and digital video archives.
B-picture
Frame memory interface
active buffer
PE array

P-picture
Frame memory interface
active buffer
PE array

half-pel/dual-prime prediction