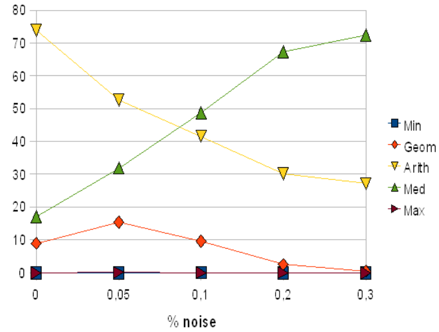

Image (a)

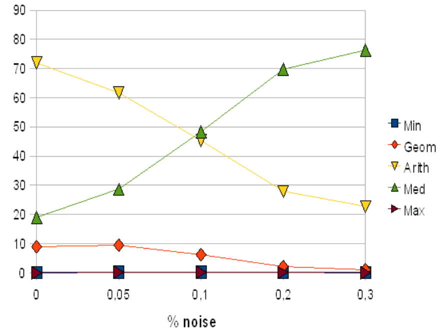

Image (b)

Figure 5: Frequency of aggregation functions as a function of the intensity of the salt and pepper noise.

magnification algorithm in grayscale images, the quality of the reduced image is determined by the aggregation function used in the reduction process.

We have investigated the problem of aggregation color values in RGB. In this way, we have studied aggregation functions in product lattices. In this context, we have presented a new image reduction algorithm based on aggregation by means of penalty functions. We have shown that the proposed algorithm is a very efficient filter for impulsive noise.

As future research, we want to compare our method with other reduction algorithms in the literature. Moreover, we want to study the effectiveness of our algorithm when filtering other kind of noise, as gaussian noise or speckle noise.

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