Gaussian noise reduction in greyscale images

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Abstract
The reduction of noise in an image, considered as a goal itself or as a pre-processing step, is an important issue. Besides classical filters, a wide variety of fuzzy filters has been developed. These filters use techniques from fuzzy set theory, and have the ability to incorporate the uncertainty that is involved in noise detection. However, it is very difficult to judge the quality of these filters. The goal of our comparative study is to select those filters that have the best performance for Gaussian noise reduction, and to investigate whether the use of fuzzy techniques represents a substantial improvement.

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