Speeding-up Gray-Scale FIC by Moments

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Abstract : In this work, fractal compression (FIC) technique is introduced based on using moment features to block indexing the zero-mean range-domain blocks. The moment features have been used to speed up the IFS-matching stage. Its moments ratio descriptor is used to filter the domain blocks and keep only the blocks that are suitable to be IFS matched with tested range block. The results of tests conducted on Lena picture and Cat picture (256 pixels, resolution 24 bits/pixel) image showed a minimum encoding time (0.89 sec for Lena image and 0.78 of Cat image) with appropriate PSNR (30.01dB for Lena image and 29.8 of Cat image). The reduction in ET is about 12% for Lena and 67% for Cat image.