

direction of the low-frequency component in the left half of the image and the high-frequency component in the right half of the image, as shown in Figure 7.

The fourth stage is the vertical direction of second wavelet transform, retaining the horizontal direction of the low-frequency component in the left half of the image and the high-frequency component in the right half of the image, as shown in Figure 8.

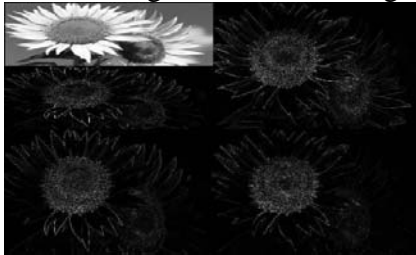


Fig.7.Second wavelet column transform

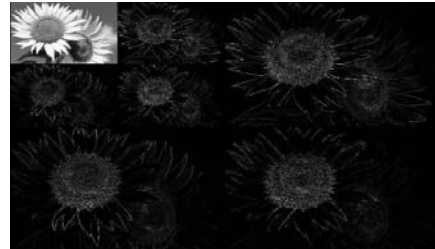


Fig.8.The result of second wavelet row transform

Conclusion

One effective method for accelerating decomposition or reconstruction of processing image wavelet transform FIR filter is designed in this paper. Using FIR filter to design the decomposition of wavelet operator, to reconstruct and calculate the IP core. The two levels of wavelet decomposition and reconstruction of the IP core will reduce the total consuming time obviously, so the influence of the image noise will be restrained effectively and the scanning image is reconstructed veritably so that the image acquisition will be completely and clearly, providing an initial basis for practice teaching of photoelectric sensor signal processing.

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