

IV. Conclusion

Based on the multi-resolution analysis of image fusion framework: multi-resolution analysis algorithm is the basis of image fusion, the fusion rule is the core of image fusion, the fusion effect evaluation is the key of image fusion. In view of this, this paper introduces the second generation Curvelet transform multi-resolution tools to image fusion ,which combines with human visual characteristics and multi sensor imaging characteristics of prior information, so a new algorithm is proposed, and the algorithm is applied to the infrared and gray level image fusion. Through the simulation experiment, the effectiveness of the algorithm is verified.

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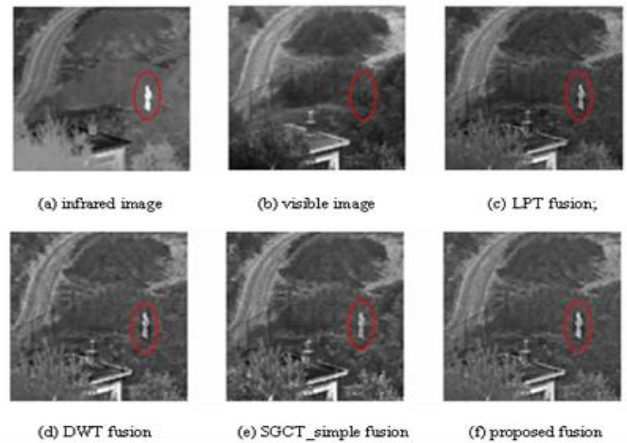
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The experiment of image fusion of group1(a) infrared image; (b) visible image; (c) LPT fusion; (d) DWT fusion;(e) SGCT simple fusion; (f) proposed fusi

TABLE 1. EVALUATION OF THE FUSION ALGORITHM

Fusion method	Evaluation indicators			
	H	CC	G	SF
LPT	7.0783	0.7 524	8.90 22	12. 3238
DWT	7.1539	0.8 146	9.18 42	12. 5198
SGCT	7.1976	0.8 595	9.21 03	12. 8058
This Paper	7.2598	0.9 066	9.25 42	13. 0956

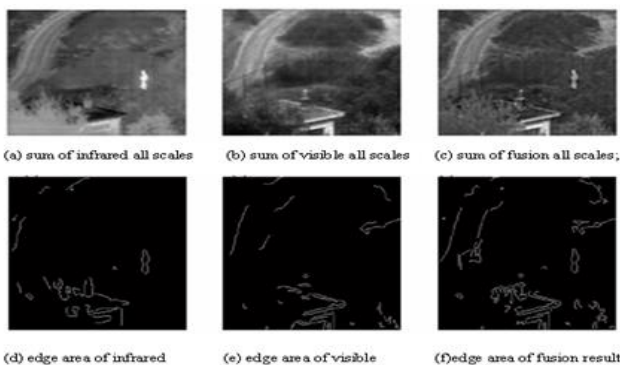


Figure 3. The sum of all scales results and detected areas (a) sum of infrared all scales; (b) sum of visible all scales; (c) sum of fusion all scales; (d) edge area of infrared; (e) edge area of visible; (f) edge area of fusion result