Because the signal-to-noise ratio of echo signal is low, the minimum range profile entropy method cannot achieve a fine compensation requirement of phase, but can give a coarse compensation, which is very helpful for the recognition and detection of high-Speed moving target. However, if the signal-to-noise ratio of echo is above 18dB, the compensation accuracy of minimum range profile entropy method can reach the compensation requirements for accuracy.

4 Conclusion

In this paper, a new speed estimation algorithm is presented. According to the discussion above, this method has the global optimal value and local optimal value, so the initial value and the selection of the optimization search method will make a great influence on the estimate effect. In this paper, it uses genetic algorithm, and gets a much better estimate effect. Furthermore, this new method has a much better accuracy in high SNR, which can be used to compensate the HRRP. And, it is more suitable for the engineering application

The next step for further study is looking for simple initial Speed estimation algorithm. It should be ensure to choose the estimated range which can cover the true value, and do not contain local optimal value. Then, the suitable evaluation function and optimization search algorithm should be given. At the same time, it must be reduce the computational complexity and improve the Speed estimation precision.

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