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(57) Abstract :
The invention discloses a device for frequency-hopping interference reduction in radar communication comprising a spectrum sensing unit (101), adaptive hopping controller (102), interference cancellation module (103), synchronization circuitry (104), and radar transceiver (105). The system detects interference in real time, generates adaptive frequency-hopping sequences, and ensures synchronization during rapid transitions. By integrating interference cancellation and signal reconstruction, the device minimizes errors and enhances detection accuracy. The invention ensures reliable radar communication under hostile electromagnetic conditions with improved resistance to jamming and cross-channel interference.

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