



## **A HYPERSPECTRAL BAND SELECTION BASED ON GAME THEORY AND DIFFERENTIAL EVOLUTION ALGORITHM**

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*Abstract- This paper uses the combination of information and class separability as a new evaluation criterion for hyperspectral imagery. Moreover, the correlation between bands is used as a constraint condition. The differential evolution algorithm is adopted during the search of optimal band combination. In addition, the game theory is introduced into the band selection to coordinate the potential conflict of searching the optimal band combination using information and class separability these two evaluation criteria. The experimental results show that the proposed method is effective.*

**Index terms:** Remote Sensing, Hyperspectral imagery, band selection, game theory, differential evolution algorithm.