THE APPLICATION OF HIGH-ORDER CORRELATION METHOD TO SATELLITE CLOUD IMAGE ANALYSIS

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ABSTRACT

THE ESTABLISHMENT OF HIGH ORDER CORRELATION METHOD HAS SHOWN TO BE VERY EFFECTIVE AND UNCOMPLICATED. IT IS CAPABLE OF PROCESSING CONSIDERABLE AMOUNT OF IMAGES AND TRACKING TARGET DYNAMICS. IN 2-D SPACE, WE HAVE SUCCESSFULLY MODIFIED THE HIGH ORDER CORRELATION METHOD IN ORDER TO SEPARATE THE CORRELATED AND UNCORRELATED SECTIONS OF SATELLITE CLOUD IMAGES. BASED UPON THE PRINCIPLE OF EDGE DETECTION, WE WOULD BE ABLE TO DEAL WITH DIFFERENT TYPES OF IMAGES WITH VARIABLE FEATURES. IN THIS THESIS, WE WILL OBTAIN THE IMPORTANT EDGE FEATURE OF SATELLITE CLOUD IMAGES USING HIGH ORDER CORRELATION METHOD. THE STATISTICS OF GRAY SCALES WERE ALSO INVESTIGATED FROM THE HORIZONTAL AND VERTICAL HISTOGRAMS. HIGH FREQUENCY NOISE CAN BE EASILY REMOVED DURING THIS STAGE. IN ORDER TO ACHIEVE PRACTICAL USE OF THE ENTIRE PROCESSES, WE UTILIZED OBJECT-ORIENTED LANGUAGE AND GRAPHICAL USER INTERFACE TO BUILD THE SIMULATION SOFTWARE. THE EFFECTIVENESS AND SIMPLICITY OF OUR APPROACHES ARE DEMONSTRATED.

Keywords : HIGH ORDER CORRELATION METHOD、SATELLITE CLOUD IMAGES、EDGE DETECTION、THE HORIZONTAL AND VERTICAL HISTOGRAMS、OBJECT-ORIENTED LANGUAGE、GRAPHICAL USER INTERFACE。

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