

(54) Title of the invention : METHOD FOR IMAGE TAMPER DETECTION AND RECOVERY USING MULTIPLE WATERMARKS

(51) International classification :G06F 111400, G06F 218600, G06K 190730, G06K 190770, G06T 010000
 (86) International Application No :PCT//
 Filing Date :01/01/1900
 (87) International Publication No : NA
 (61) Patent of Addition to Application Number :NA
 Filing Date :NA
 (62) Divisional to Application Number :NA
 Filing Date :NA

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(57) Abstract :

METHOD FOR IMAGE TAMPER DETECTION AND RECOVERY USING MULTIPLE WATERMARKS ABSTRACT The proposed method is a tamper detection and recovery method using a self-embedding watermarking technique is developed in the spatial domain. Since watermarks in the spatial domain are fragile and sensitive to any change of an image, it is suitable for tamper detection. We propose to use two lowest bit planes of an original image to embed ten watermarks (WMs) in total. Two different resolutions of WMs are generated by down-sampling the original image. Two identical WMs of higher resolution occupy the least-significant bit (LSB) plane of the original image, while eight identical WMs of lower resolution are embedded to the 2nd-bit (SB) plane. Tamper detection is performed using the SB plane and the recovery of the original image is conducted using the LSB plane. Statistical evaluation of our experimental results show that the proposed method can detect and recover local image tampers successfully.

No. of Pages : 20 No. of Claims : 6