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**Moon et al.**

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(54) **METHOD FOR ESTIMATING DISPARITY SEARCH RANGE TO WHICH MULTI-LEVEL DISPARITY IMAGE DIVISION IS APPLIED, AND STEREO IMAGE MATCHING DEVICE USING THE SAME**

(52) **U.S. Cl.**  
CPC ..... **G06K 9/00208** (2013.01); **G06T 7/337** (2017.01); **G06T 2207/10012** (2013.01);  
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(58) **Field of Classification Search**  
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See application file for complete search history.

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**G06K 9/00** (2006.01)  
**G06T 7/33** (2017.01)

(57) **ABSTRACT**

Provided is a method for estimating a disparity search range to which multi-level disparity image partition is applied, and a stereo image matching device using the same in that a disparity histogram of a previous disparity image is analyzed at the time of stereo matching of a continuous image, the disparity image is divided into various sizes of image blocks, and a disparity search range is estimated on the basis of a disparity value having the number of pixels equal to or more than a predetermined threshold value for each image block, thereby decreasing a calculation amount while improving a stereo matching rate of the next frame.

**13 Claims, 6 Drawing Sheets**

