

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte XUDONG SONG,  
TIHAO CHIANG,  
YA-QIN ZHANG,  
and  
RAVI KRISHNAMURTHY

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Appeal No. 2001-0927  
Application No. 09/106,707

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ON BRIEF

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Before THOMAS, HAIRSTON, and JERRY SMITH, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 20.

The disclosed invention relates to a method and an apparatus for performing motion estimation for a sequence of images.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

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1. A method for performing motion estimation for a sequence of images, said method comprising the steps of:

(a) generating an M-ary pyramid having a plurality of levels for each of said images, where each image is divided into a plurality of blocks;

(b) generating a plurality of motion vectors based on a plurality of tiling block sizes; and

(c) passing at least one of said motion vectors for each of said blocks to a lower level of said M-ary pyramid.

The reference relied on by the examiner is:

Lee et al. (Lee), "A Fast Hierarchical Motion-Compensation Scheme for Video Coding Using Block Feature Matching," IEEE Transactions on Circuits and Systems for Video Technology, 6(6), pp. 627-35 (Dec. 1996).

Claims 1 through 20 stand rejected under 35 U.S.C. § 102 as being anticipated by Lee.

Reference is made to the brief (paper number 11) and the answer (paper number 12) for the respective positions of the appellants and the examiner.

#### OPINION

We have carefully considered the entire record before us, and we will reverse the rejection of claims 1 through 20.

According to the examiner (answer, page 3):

Lee et al. clearly provides for generating an M-ary pyramid as clearly illustrated in figure 2. This pyramid has a plurality of levels, what Lee et al. call layers, as indicated in figure 2. Also shown in figure 2 is different tiling blocks which have different

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sizes, such as 8 by 8, 2 by 2, and 4 by 4. The plurality of motion vectors are generated based on these plurality of tiling blocks, as discussed on page 629, right column, lines 6-18.

Figure 2 of Lee discloses a reduced-mean pyramid representation for an 8 x 8 block with three layers (page 629, left column). Although we agree with the examiner that the three layers may be considered a plurality of levels as broadly set forth in the claims on appeal, we do not, however, agree with the examiner that this same mean pyramid has a plurality of tiling blocks, that motion vectors are generated based on such tiling blocks, and that at least one of the motion vectors for each block is passed to a lower level of the M-ary pyramid as claimed. There is a complete absence of evidence or a convincing line of reasoning in the record to support the examiner's conclusions concerning the teachings of Lee. The rejection of record must be "based on objective evidence of record," and not the examiner's "subjective belief and unknown authority." In re Lee, 277 F.3d 1338, 1343-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002). Accordingly, the 35 U.S.C. § 102 rejection is reversed.

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DECISION

The decision of the examiner rejecting claims 1 through  
20 under 35 U.S.C. § 102 is reversed.

REVERSED

JAMES D. THOMAS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
JERRY SMITH	)	
Administrative Patent Judge	)	

KWH:hh

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