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E.G. ZHILYAKOV, D.A. CHERNOMORETS

ON THE INFORMATIVENESS OF IMAGE FLOW SUBBAND ANALYSIS
WHEN DETECTING THE OBJECTS

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We consider an approach for detecting objects on an agitated sea surface based on subband analysis of the image sequence within the cosine transformation in the paper. It is shown that the subband analysis of images of the desired object and the sea surface can reveal differences in the distribution of their energies, which can serve as a criterion for object detection.

Keywords: subband analysis, sea surface, object, subband matrix, cosine transformation.

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$(/q , jo)$

$$jf = (^{x}l, ^{x}2, \bullet\bullet\bullet, ^{x}K)^{T}, \qquad (1)$$

c $(/q , jo)$

$G_r , r = 1,2,...,R ,$

$V_r , r = 1,2,...,R,$

$$Vr = [Ur,l \cdot Ur,2\}, 0 < Uri < Ur,2 < n, \quad r = 1,2,..., R , \qquad (2)$$

$U_{i i} = 0 , U_{r 2} = \quad .$

[2, 3]:

$$G_r = A_r + G_r \qquad (3)$$

$A_r = (^/^), /n = 1,2,...,K , -$

:

$$\frac{\sin(u_{r 2} (l - n)) - \sin(u_r i (i - n))}{\{1 - n\}} \quad i \wedge n, \qquad (4)$$

$in = i$

$\dfrac{u_{r 2}\, u_{r 1}}{\text{--------------}} , i = n,$

$G_r = (gj'_n), l,n = 1,2,...,K , -$

:

$$^\sim[= \frac{\sin(u_{r 2} (l + n -1)) - \sin(u_r i (i + n -1))}{K(i + n -1)} . \qquad (5)$$

( )

V_r [1, 2]:

$$P_r (:?) = :x^T G_r :x /1| : \; ||^2. \qquad (5)$$

, (1)

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[4, 5],

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[4, 5] ,

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P_x Py x (1)

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$R = 16$).

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$Ve \sim Vi6$,

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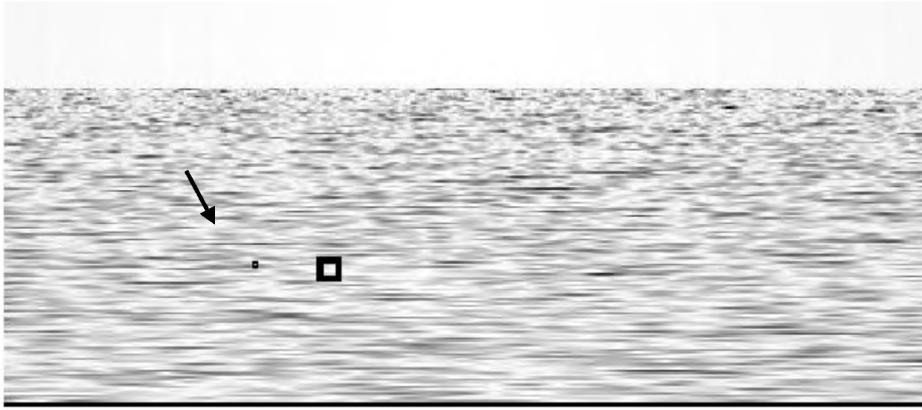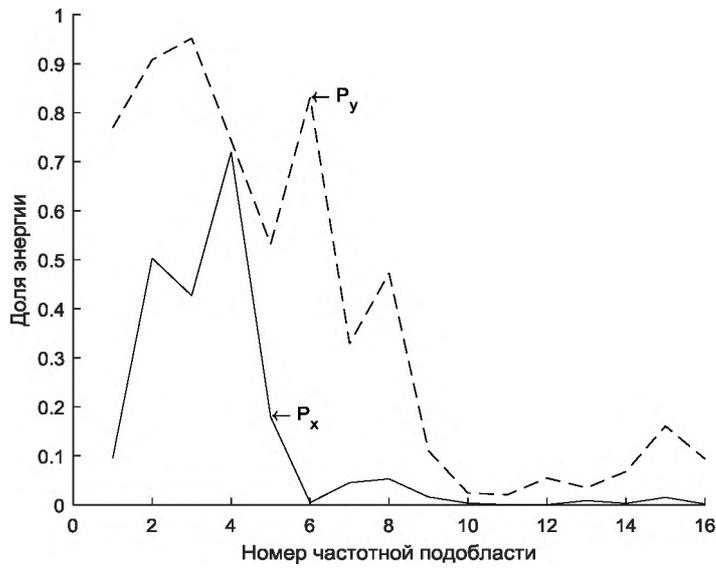
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