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TECHNOLOGY OF THE RECONSTRUCTION OF THE ARRAY OF RUN LENGTHS OF BINARY ELEMENTS FOR THE SYSTEMS OF VIDEODATA TRANSMISSION IN TELECOMMUNICATION NETWORKS

The necessity of the development of technologies of the compression of the binary description of transforms on the basis of use of an adaptive monobasic positional encoding of sequances of unidimensiol lengths of series of binary areas. The construction of a method of two-stage adaptive monobasic positional decoding, carrying out the reconstruction of the columns of the array of seria of binary elements without the loss of an information in the case when the length of the last column of the array is unknown, is stated. It is grounded, that for the decoding of the following information are sufficient: the length of the complete column of the array of length of seria of binary elements; size of foundation of an adaptive position number.

Keywords: *reconstruction of videoinformation, monobasic decoding.*

Introduction

The need for further development of telecommunication network including due to increasing demands and new of videoinformative services [1; 2]. At the same time, the analysis of video data transmission using telecommunications systems has shown that timely delivery is provided only for frames with low spatial resolution violates. To overcome this situation, perhaps by reducing the rate of PE compactly represented by the video stream. The smallest reduction in bit rate compressed video data is achieved by the use of methods that use JPEG focused technology [3; 4]. However, the required level of compression is achieved only at the cost of making quality reconstructed images. Hence the lower bit rate compressed video data to increase the

quality of providing services using telecommunication systems is the current focus of research and applied research.

A further increase in the compression ratio is to improve the technology of encoding a binary representation of the transformed images. In the works [4; 5] sets out the development of transformant compression methods based on monobasic positional encoding arrays of lengths of binary series. However, the reconstruction of the codewords for tacos on the method will be significantly different from the technology recovery, had stowed the JPEG. Therefore, the aim of the research was to develop technology for reconstruction of images based on the decoding of codes monobasic positional numbers formed for arrays of lengths of binary series bit description transformant.

Main Part

Design method of adaptive motion of monobasic de-coding. The need to decode the positional numbers without loss of information if the length of the last column of an array of lengths of binary series is unknown. For such a process of decoding the source of information is: – the length of the column array lengths of series of binary elements; given that set limits on the length of the word science-based system and the size of the binary transformants planes, where is the number of columns and number of rows, the definition of value is as follows; the basis of adaptive position number; – the condition that the elements of the position number is nonzero. The AOP elements of both the length of the binary series, and should consistently, the first senior member of AOP the number is equal to zero, i.e.

Then you can determine the values of known length code word. Because within a single array length code word is a constant, it is possible to read a code value for an array column with SDE. Given that adaptive decoding is proposed to position on the basis of two main steps: 1) preliminary determination of the length of the AOP the number; 2) the AOP elements of recovery. Let's look at the first stage. To determine the length of the current position-million number is a condition consisting in a reduction of the limit value of AOP code, namely:

$$C(p)_k \le p^{S'} - 1. \quad (1)$$

As it can be seen from the analysis of the expression (1) its right part depends on the basis of the AOP. This allows you to use this expression to detect the weight of a senior member of AOP. On the properties of numbers for the weighting factor of the senior member of AOP it will run inequality

$$D_{1,k} = p^{S'-1} < C(p)_k \le p\, D_{1,k} - 1 = p^{S'} - 1. \quad (2)$$

It follows that if the inequality (2) is executed, the value is the weighting of senior member of AOP the number and length of the number would be equal to S' and $k = K$. As the initial (test) the length of the AOP the number proposed IP-use the full length of the column array SDE. Then AOP the number length definition schema is as follows: 1) supporting AOP the number length is equal; 2) checks the inequality; 3) depending on the result, the following action if an inequality is, then, that found the desired length of the AOP the number. If the inequality is not performed, and re-move to the second stage

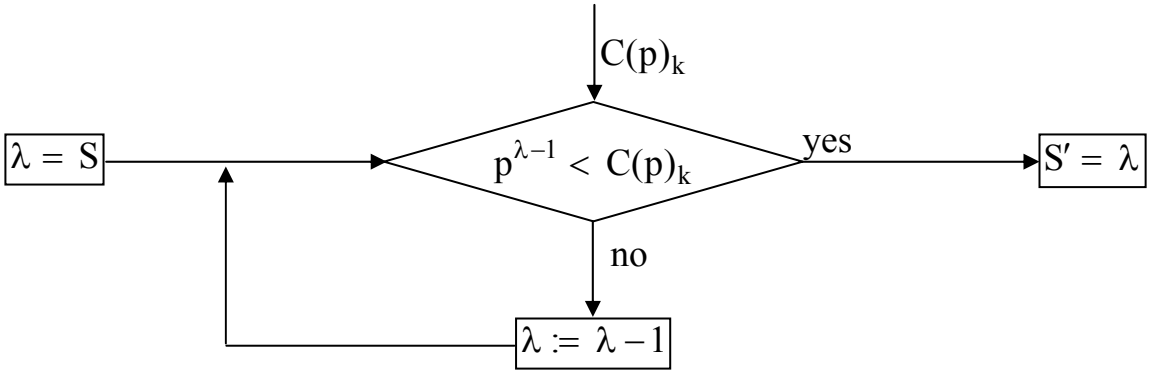

Fig. 1. Structural scheme of the defining of S'

$$\nu_{s,k} = [C(p)_k / p^{S'-s}] - [C(p)_k / p^{S'-s+1}]p, \quad s = \overline{1,S'}. \quad (3)$$

Block diagram for determining the amount of the scheme the maximum number of iterations to determine the length of the AOP the number would be as well. Look at the second stage. For known-length motion of reconstruction of its elements is carried out according to the following formula (3). By analyzing the

expression come to the conclusion that to get on a need to know the length of an adaptive pozition-number.

Hence, adaptive monobasic positional encoding in a way without loss of information to restore the columns array of lengths of series of binary elements in the absence of information about its length. Therefore, the condition for reducing the number of official data needed to restore a binary description of the transformanty without loss of information.

Conclusions

Adaptive two-step monobasic method built position decoding that reconstruction of the column array SDE without loss of information if the length of the last column of an array of lengths of binary series is unknown, including: 1) preliminary determination of the length of the AOP the number; 2) AOP elements of recovery. The process of decoding is done on the basis of the following information: the full length of the column array lengths of series of binary elements; the FA dignitaries adaptive position number; condition of inequality zero value the senior element of the position number.

This allows you to ensure that: there is a limit to the value of AOP based code only from the base; – restoring items AOP the number is based on the known length of AOP and its foundation.

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