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<https://www.wil.waw.pl/wil/publikacje/baza-publicacji/r3386383445729,Number-of-lines-of-image-reconstructed-from-a-revealing-emission-signal-as-an-im.html>
26.04.2024, 22:36

Number of lines of image reconstructed from a revealing emission signal as an important parameter of rasterization and

Tytuł

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Typ publikacji

[Artykuł](#)

Rok

2022

Data dokładna

2022

Autorzy słownie

Autorzy

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ISBN/ISSN

ISSN 2076-3417

Informacje dodatkowe

Applied Sciences, 2023, 13, 447,

<https://doi.org/10.3390/app13010447>

Abstract: An important issue in the protection of information against electromagnetic penetration is the possibility of its non-invasive acquisition. In many cases, getting hold of protected information involves recreating and presenting it in a readable and understandable form. In particular, this applies to data processed in graphic form and in such a form presented on the side of eavesdropping system. The effectiveness of reconstructing data in graphic form requires knowledge of raster parameters, i.e., the line length and the number of lines of the reproduced image. This article presents new measures allowing for the determination of the correct number of lines in an image. The maximum value of the measures has been proposed as a criterion for the correctness of determining the number of image lines. A predetermined number of image lines was assumed as the input data, which was determined on the basis of the analysis of the amplitude variability of the recorded revealing emission signal. The result of the considerations of the effectiveness of the measures adopted in the process of electromagnetic infiltration was the indication of methods that allow for the correct determination of the number of lines of the reproduced image. The correct number of image lines allows the use of the coherent summation algorithm of tens of images.

Keywords:

security information; reveal emission; information processing; image processing; electromagnetic infiltration; data acquisition; contrast enhancement; image reconstruction

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<https://www.mdpi.com/2076-3417/13/1/447>

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