FACTORS, CRITERIA AND REQUIREMENTS FOR FINE QUALITY OF AERIAL IMAGERY, OBTAINED FOR MAPPING PURPOSES

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Fine image quality assessment of aerial imagery, obtained for mapping purposes, is a relevant problem today. The purpose of this article is development the criteria system of fine image quality assessment of aerial topographic imagery and set requirements to them. The article discusses a set of factors that determine the fine image quality - natural surveying conditions, its technical and technological conditions and parameters. The article carries out the analysis of how these factors influence on aerial imagery and shows the main defects of images caused by them – such as blurring, haze, loss of information in highlights and shadows, high random noise, color disbalance. The article defines the ways for identifying these defects and assessing their influence on the fine quality of aerial imagery both visual and automatic methods. It is shown that image fine quality assessment must be carried out in terms of structural and gradation (photographic) characteristics. It is also shown that, in addition to the above characteristics, fine quality of aerial images can be influenced by random factors, the appearance of which cannot be predicted. Defects caused by these factors are revealed by operator's visual inspection. The requirements for several fine image quality criteria, which allow to establish this research phase, are given.

Keywords: aerial imagery, fine image quality, blurring, haze, loss of information in highlights and shadows, random noise, color balance, histogram, structural characteristics, gradation (photographic) characteristics

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