

Diploma thesis abstract

" Comparison of vibrational spectra of white oil paints of the XX century artwork "

In the world of painting the problem of preservation of works of art in their original form , as well as their restoration and repainting is particularly acute. The problem of attribution , dating of works and the establishment of their authenticity is also of great importance. This paper discusses the spectral methods of research of Soviet paintings of the twentieth century. Careful consideration is given to the question of the influence of impurities on the spectral characteristics of the paint. The process of polymerization of the oil (paint drying) is studied in detail. The methodology for determining the time of writing of the painting based on spectroscopic data is being developed. The question of interaction of pigments in the paint is debated.

By IR and Raman spectroscopy the lack of interaction between pigments (zinc and white lead) has been proved. Additivity of pigments spectral signals was demonstrated. On basis of this information and using standard regulations of the plants we can estimate the lower bound when the picture was painted .

Low solubility of the most common impurity to paints, aluminum stearate, was proved . On the ground of the findings it is possible to determine the date of writing of the artistic paintings.

On basis of the methodology developed, the data were received, that disprove the current method of painting dating by means of infrared spectroscopy.

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