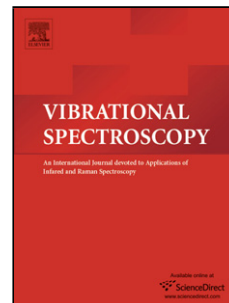


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Study on Colored Pattern Pigments of a Royal Taoist Temple beside the Forbidden City (Beijing, China)

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Abstract: The colored pattern pigment of Dagaoxuan Taoist Temple which was the royal temple of Ming and Qing dynasties (1368-1912) in China was studied for the first time. Fifteen samples were identified by the combined use of SEM-EDS, Raman spectrum and Polarized light microscopy. The results revealed that, the red pigments included hematite, cinnabar, minium and realgar. The blue pigments included lazurite and ultramarine. The green pigments included olivenite and emerald green. The yellow pigments included orpiment and chrome yellow. The black pigment was carbon and the white pigments included gypsum and hydrocerussite. The study showed that more than one type pigment was used for the same color except black, which may be attributed to the history of multiple repairs. In addition, it was necessary to combine the use of two or more test methods for identifying cultural relic samples composed of multiple substances, which played an important role in exploring the true and accurate historical information of this architectural treasure that has never been studied.

Keyword: Colored pattern; Pigments; Chinese royal Taoist temple; Ming and Qing dynasties; Raman spectrum; SEM-EDS

1. Introduction

Dagaoxuan Temple(大高玄殿, Fig. 1) is located in the Imperial City of Beijing,

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