

A Preliminary Study on Reconstructing Faded Color by Spectral Estimation Method for Heritage Object

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The color appearance of heritage object may reveal not only its unique style but also its culture characteristics. However as time goes by, the color of the heritage object may be changed, for example, the exposure to sunlight may cause the color on the exterior of historical building to fade gradually. This study proposes a color estimation method to recover faded color based on spectral reflectance data gathered from Bogd Khan Palace Museum in Ulaanbaatar, Mongolia. Several series of colors were measured at different locations of the building, which are under different level of shading in its structure. Photos of a white ruler were taken at the same time as a reference to indicate the intensity of sunlight exposure to each position of the measurement. The results indicate a possible application of spectral color technique to the culture heritage work. This study relies on the spectral technology in order to achieve unprecedented color restoration. Therefore, the data generated from the spectral processing technique is enormous especially when novel data analytics algorithms are required.

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