

Research On Reality Map Colour Design Computer Model*

Abstract:

Computer reality map is a new variety of map with strong stereoscopic and reality which is developed on the basis of computer graphics development. It is very suitable for the requirements of different levels and fields. Because a reality map emphasizes reality and stereoscopic, in the aspect of map processing method, color processing is another very important key technique besides map's 3-D model and hidden line processing, illumination processing, shadow processing and surface vein processing. Computer screen can display various colors. However, up to now, there is not a color standard set up on computer screen. In fact, there are strict colour standards in standardized colour map design. How to transfer printing color standards onto computer screen is not only the requirement of reality map research, but also the requirement of accomplishing color printing computerization.

The focus of this article is how to transfer printing colour standards onto computer screen, how to establish printing color standards on computer screen and how to set up color design model.

Traditional chromatics points out that the screen color range of RGB model is larger than that of CMY ink printing colors. According to this theory and its transformation model, there should be no problems to fulfil the transformation from CMY system to RGB system on computer. In fact, through many experiments, the result has been proved that a part of CMY ink printing colours can not be transferred onto computer screen. In the paper, a proper explanation about it is given and a new transformation model is put forward.

Key Words: Color model, Printing colour standard,
Screen reproduction, Printing restoration

*This project is supported by National Natural Science Fund.