# A color imaging system, "Nose Camera" System

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**Abstract**

A new color constancy method was recently introduced in [1] using a camera attachment ñnoseò, which is visible in the image, for spatial measurement of illumination color in the scene. The illumination measurement principle relies on the appearance of highlights or satisfaction of the gray world assumption inside a scene area. However, the nose size was big in the system and its image occupied 25% of the image area.
In this paper, the previous system is modified by reducing the nose size which becomes suitable for measuring uniform illumination color in the scene. In the modified system, the nose image appears continually as a small triangle in an image corner occupying less than 3% of the image area. The color correction algorithm processes the saturated pixels to give them a natural appearance.
A novel technique to balance image colors optically is also introduced that preserves the color resolution in the corrected image. Extensive experiments were carried out which confirmed the effectiveness of the new system.

*Okayma University  2008, January*