RADIATIVE CHARACTERISITICS OF SURFACE STRUCTURE ON HUMAN SKIN

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ABSTRACT. Human skin texture influences its appearance, and a finely textured skin is considered beautiful. However, we do not know precisely how the skin texture influences its appearance. In this study, in order to clarify the scattering characteristics at the skin surface, we measured the bi-directional reflectance using an optical prism with a skin structure. To understand the measurement results, three numerical models have been developed. The first model considers a large-scale structure of the skin, which is called the "skin texture," and the second model considers the finer structure, called the "microstructure." The third model is a combination of the other two models. The results predicted by the models that consider the microstructure are in good agreement with the measurement results. This reveals that the large-scale skin texture does not affect light scattering by the skin surface, but the microstructure of the skin surface does affect light scattering.