

Design and Simulation of Automotive Surface Coatings

时间：2010年8月6日(星期五) 上午 10:00

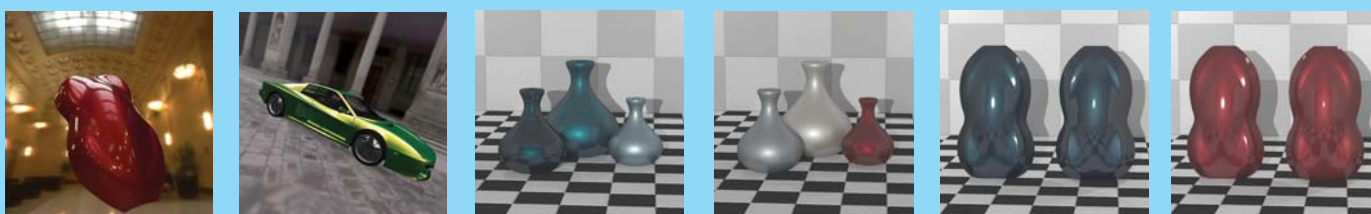
Prof. Gary Meyer

地点：北京大学理科二号楼 2736

University of Minnesota

Abstract

Computer graphic tools for styling the color appearance of new automotive paints and for simulating the application of these surface coatings will be presented. Three unique user interfaces will be described that allow the designer to manipulate the paint's color appearance by pointing to a digital mood board, by suggesting changes directly on the car's surface, and by creating a sketch of the desired color appearance. A technique for predicting color mismatches due to geometric misalignment of parts will be discussed, and methods for designing paints with surface reflectances that camouflage this type of color appearance problem will be suggested. A three dimensional virtual spray paint system will be shown that includes controls for important application parameters such as air pressure, paint pressure, and paint viscosity. The simulation of orange peel, an important spray paint artifact, will be mentioned, and a simple analytic model for predicting the visibility or invisibility of this imperfection with paint color will be introduced.



Gary Meyer is an Associate Professor in the Department of Computer Science and Engineering at the University of Minnesota. He has also been a member of the Computer Science faculty at the University of Oregon and a Member of Technical Staff at Bell Telephone Laboratories. Meyer received his Bachelors Degree from the University of Michigan, his Masters Degree from Stanford University, and his PhD Degree from Cornell University. His research interests include the

synthesis of color and appearance in computer graphic pictures, perceptual issues related to synthetic image generation, and color reproduction and color selection for the human-computer interface.