
# 3D VIDEO OBJECTS FOR INTERACTIVE APPLICATIONS (ThuAmOR1)

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**Abstract :**

In this paper we present a 3D scene representation with standardized components to be used in interactive environments. For this representation we also show efficient coding of underlying components as well as a 3D reconstruction system for creating 3D video objects (3DVOs). Similar to computer graphics objects, 3DVOs provide functionalities, like free scene navigation and animation. In addition, they offer real world appearance and natural motion. The presented object description combines a 3D mesh model with a number of original video textures. These videos are weighted in the final object rendering according to the particular point of view. For coding the object meshes over time, we present a novel algorithm that exploits spatial and temporal dependencies in the mesh sequence and outperforms comparable coding methods. For the multi−texture coding, we preprocessed the video textures w.r.t. their shapes and applied H.264/AVC, the MPEG−4 state−of−the−art video coder.

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