ARTICLES

21 Edge-Based Data Structures for Solid Modeling in Curved-Surface Modeling Environments

Kevin Weiler

CAD/CAM applications need quick and easy access to topological information about objects. Here, four structures for representing this information are evaluated for sufficiency, efficiency, and ease of implementation.

41 Interfaces for Data Transfer Between Solid Modeling Systems

P. R. Wilson, I. D. Faux, M. C. Ostrowski, and K. G. Pasquill

Data-exchange methods between geometric modeling systems have yet to be standardized. This early attempt, while not ideal, appears to provide a good foundation for future efforts.

52 Back-to-Front Display of Voxel-Based Objects

Gideon Frieder, Dan Gordon, and R. Anthony Reynolds

This straightforward 3-D display algorithm traverses voxels slice by slice to project each voxel on the screen. No surface detection or z-buffer is needed.

61 Timcogs: An Educational, Computer Graphics Timber-Marking Simulator

Jeffrey J. Welty, John W. Moser, Jr., and Michael J. Bailey

Visualizing complex timber-marking and tree-growth concepts gives forestry students new insights into the problems, confidence in practical techniques, and invaluable experience.

68 Background and Source Information About Computer Graphics

Carl Machover

A NOTE

82 On an Efficient Line-Clipping Algorithm

David F. Rogers and Linda M. Ryback

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