

## Three-Dimensional Display of The Simulated Excitation of The Ventricles

Tsair Kao, Ming-Feng Lin, Liang-Chin Wu\* and  
Jiun-Kuen Wang\*

Institute of Biomedical Engineering  
National Yang-Ming Medical College  
Taipei, Taiwan, R. O. C.

\* Department of Nuclear Medicine  
Veterans General Hospital, Taipei  
Taipei, Taiwan, R. O. C.

### Abstract

In this paper, a PC-based three-dimensional image display system is presented which is developed to demonstrate the simulated ventricular depolarization sequence. A modified front-to-back voxel display algorithm is used for any viewpoint and transparent color object. Both distance-only shading and image space gradient shading are included to depolarization sequence is represented by different colors. The intramural excitation patterns may be easily observed as well as the epicardial excitation. With this system, the computer model used to simulate the ventricular excitation sequence can be modified interactively.

Keywords : Ventricular Excitation Simulation, Three-Dimensional Image, Cut-Way Viewing.