Layout and Process Description

3D Geometric Modeling (Polygon & Object Operations)

3D Mesh Generation (Level Set & Marching Cubes)

3D Electrical Modeling (Parameter Extraction)

Electrical Parameters

Fig.1 System flow chart

Fig.2 3D SRAM rendering with transparent layers

Fig.3 Distance contour and octree mesh sections for word line

Fig.4 Iso-surface and octree mesh for word line

Fig.5 Silicon substrate, polysilicon layer, first and second metal layers in surface mesh

Fig.6 Capacitance for a single word line and substrate

\[ C_{11} = 4.55 \text{fF} \quad C_{12} = 5.37 \text{fF} \quad C_{22} = 0.48 \text{fF} \]