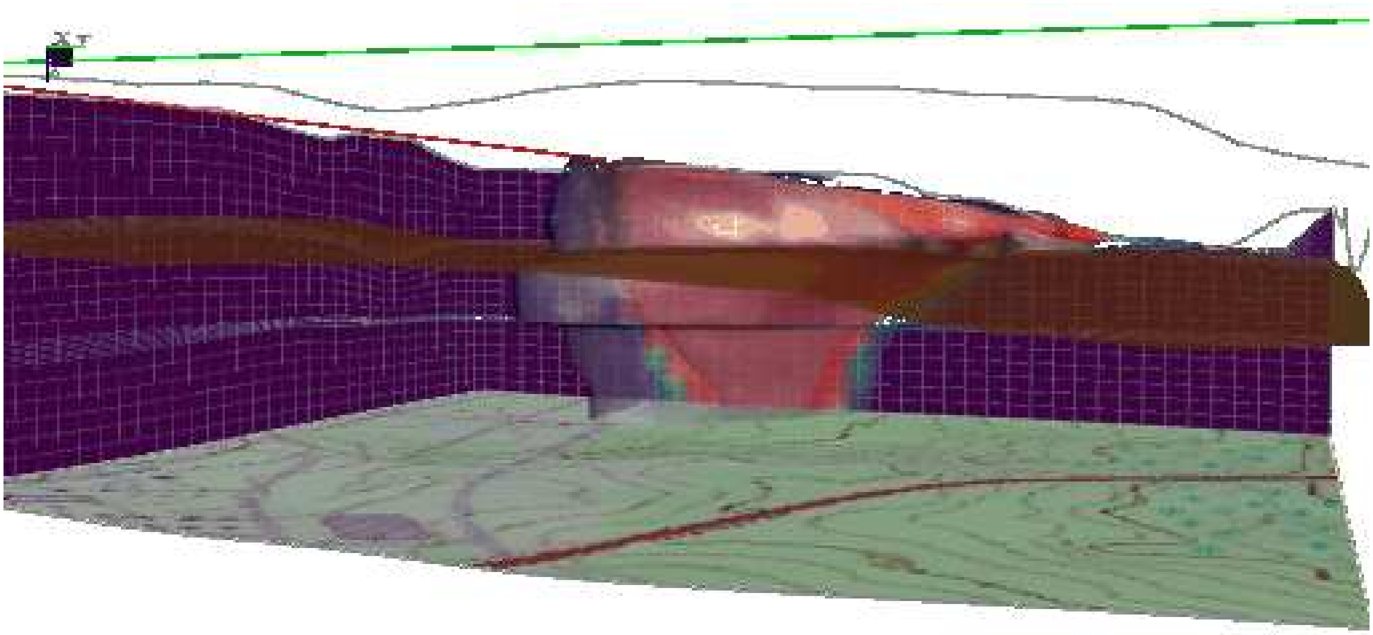
G3D



(A Contaminant Plume Infiltrating a Clay Layer)

A 3D User Environment for Partial Differential Equations

by

L. Scott Johnson, Alpana Kaulgud,
and Robert C. Sharpley

Version 1 (12/15/96)
Revised (5/8/97)

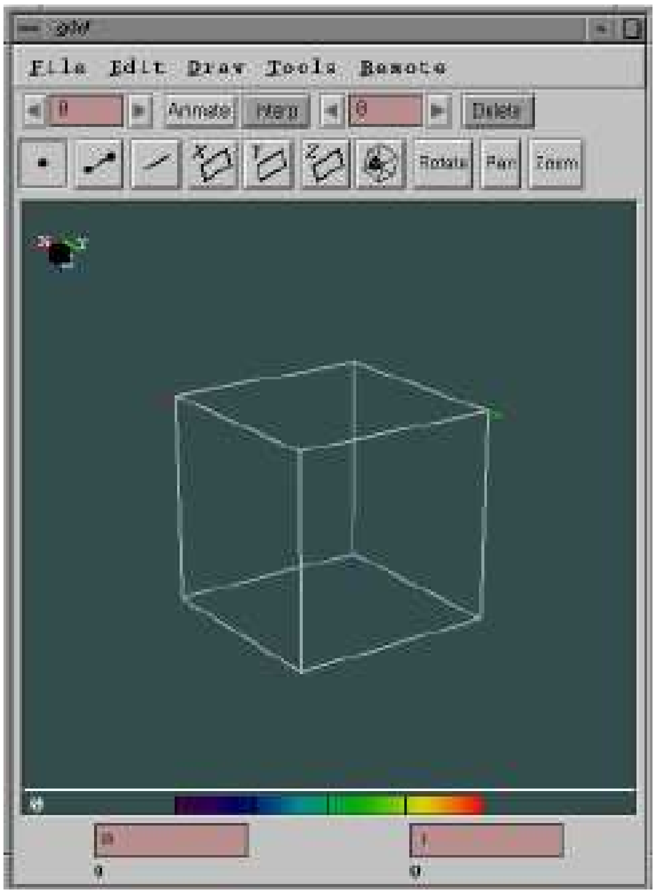


Figure 1: Initial Main Draw Window

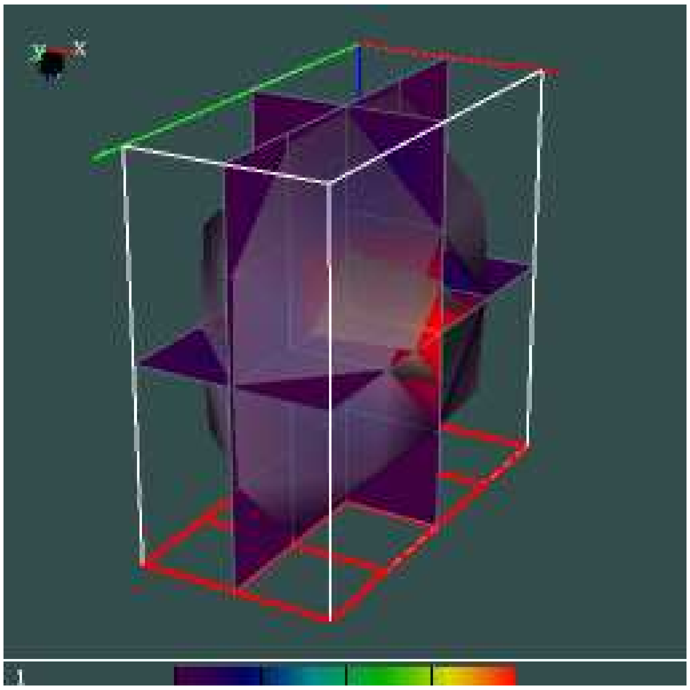


Figure 2: Tutorial #1 – Data Set 1

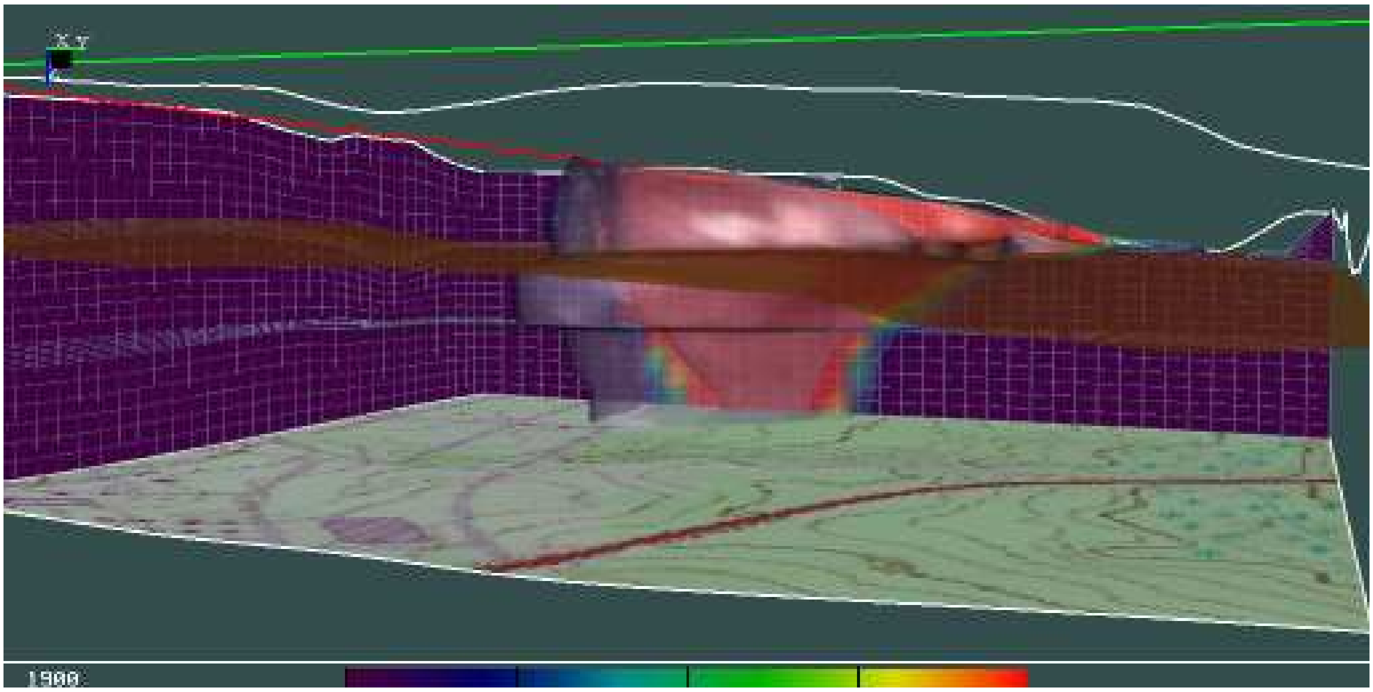


Figure 3: Tutorial #1 – Data Set 2

Figure 4: **Edit→Grid** Widget

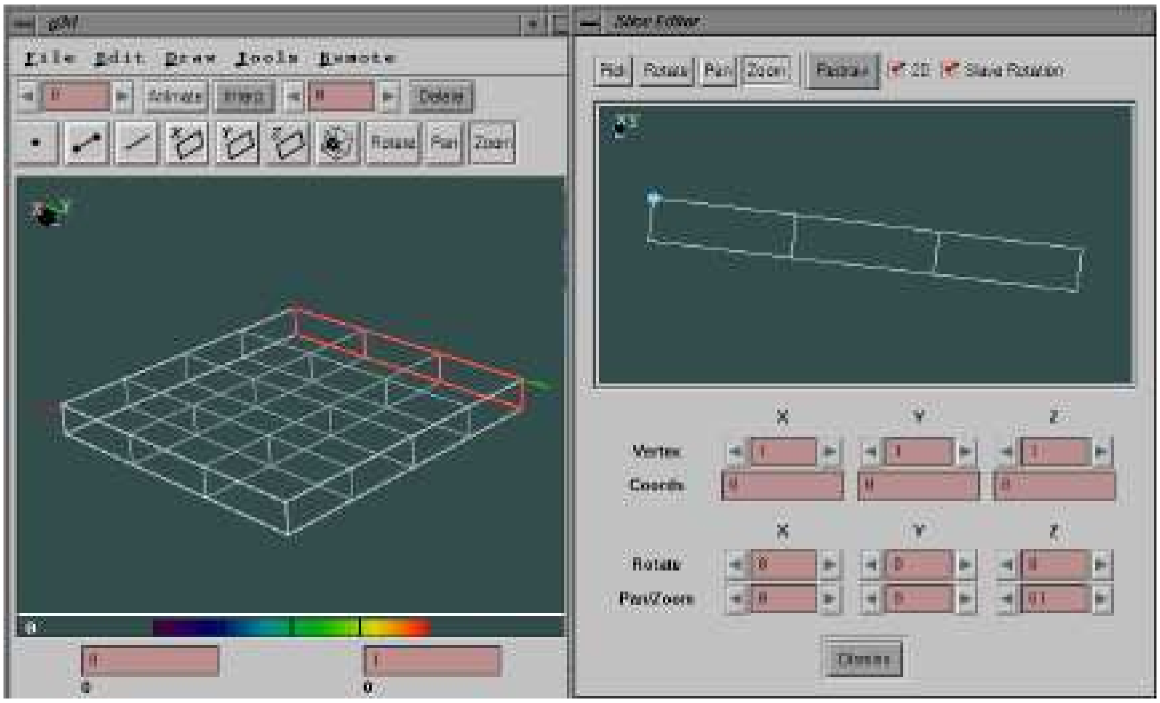


Figure 5.a: Initial **Edit Slice** Widget with x−index =1.

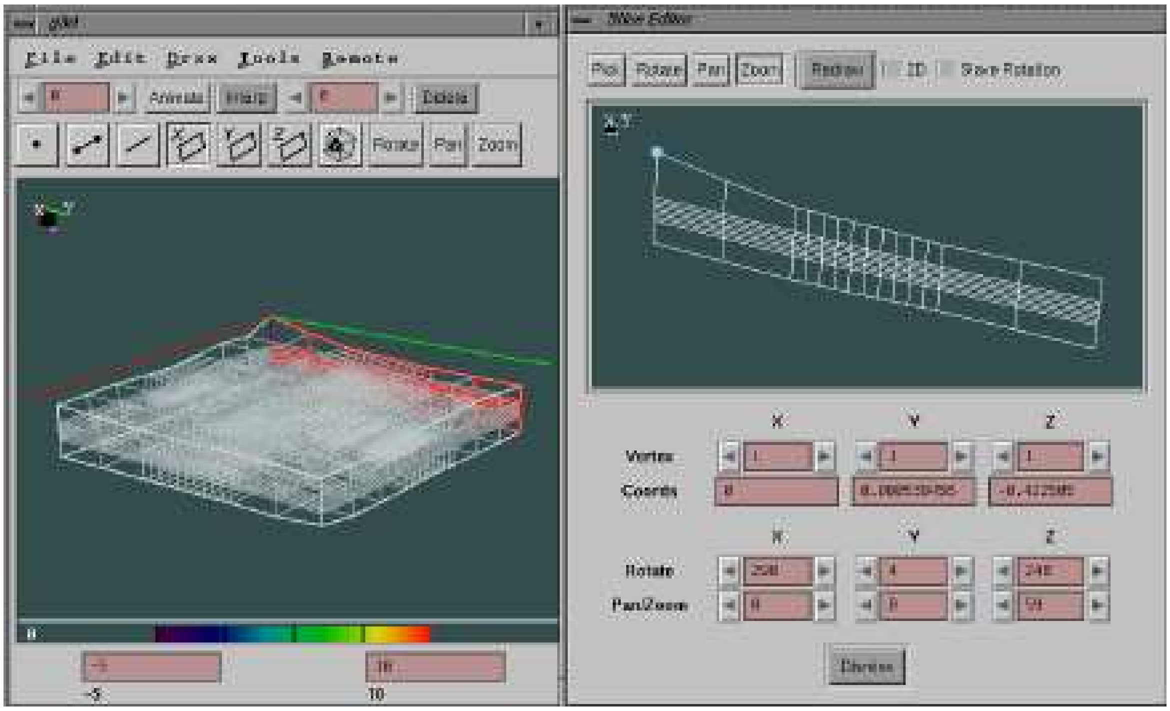


Figure 5.b: **Edit Slice** Widget with x−index =1.

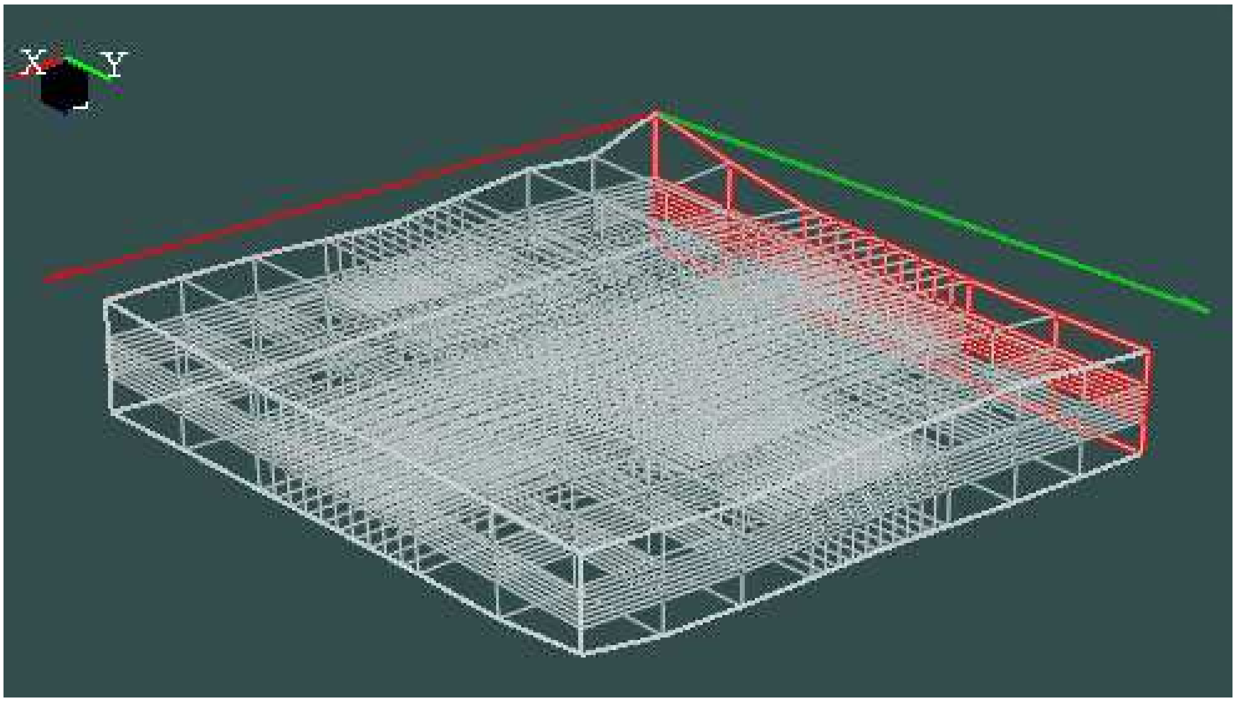


Figure 6: Resulting simple grid of Tutorial #2.

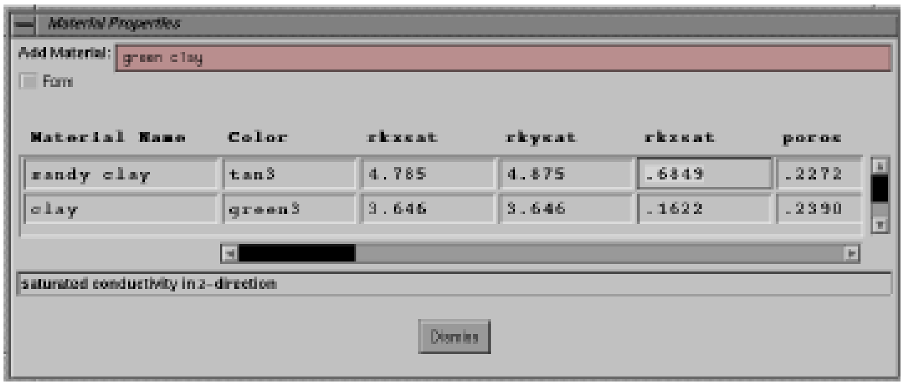


Figure 7:Material Properties Widget

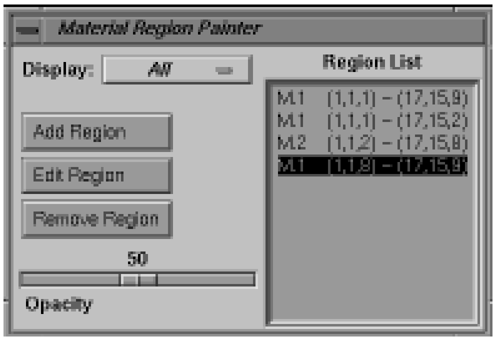


Figure 8: Material Regions List Widget

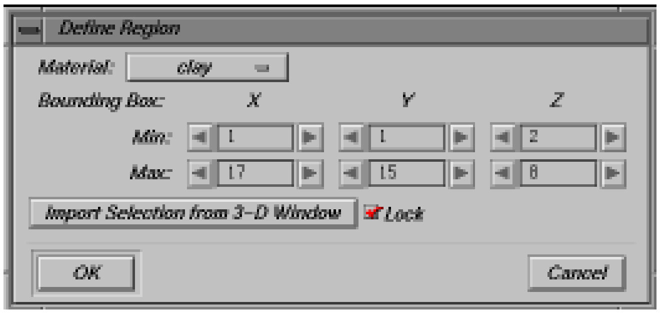


Figure 9: MaterialRegion Painter Widget

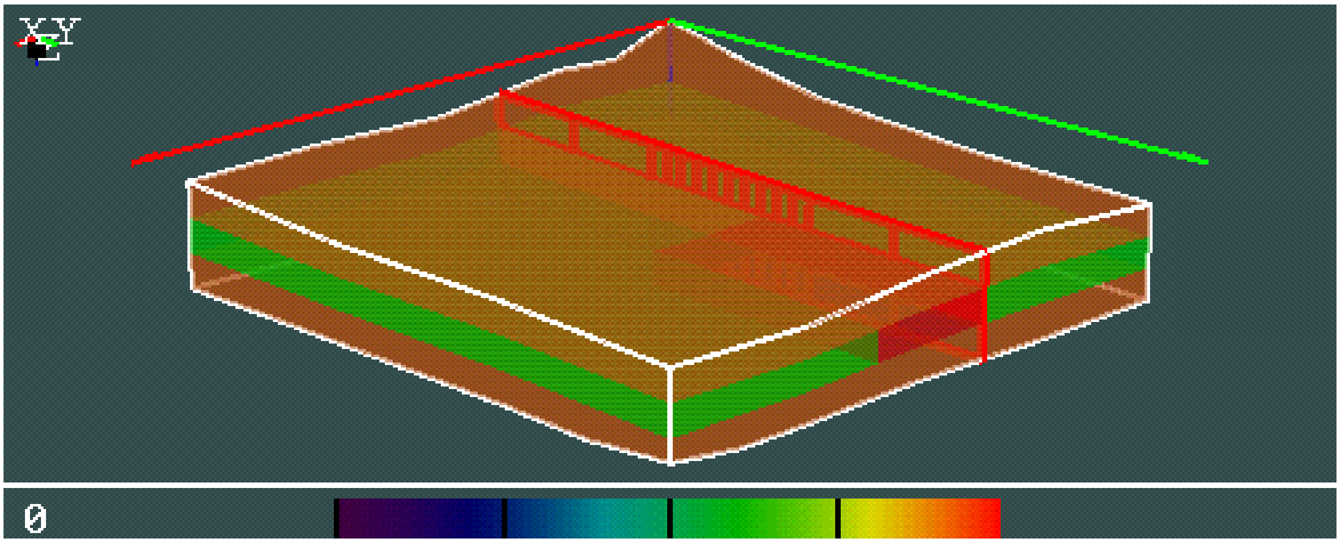


Figure 10: Layered Media

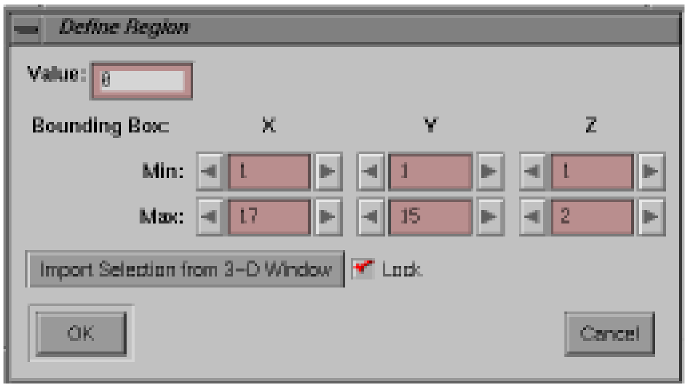


Figure 11: Initial Conditions Editor

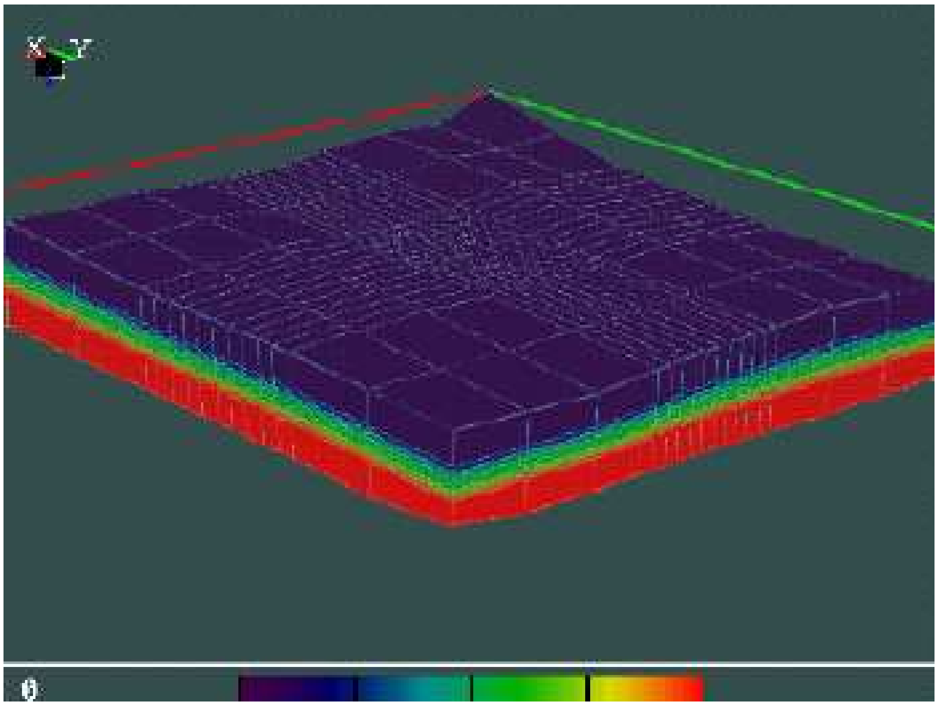


Figure 12: Initial Condition Data

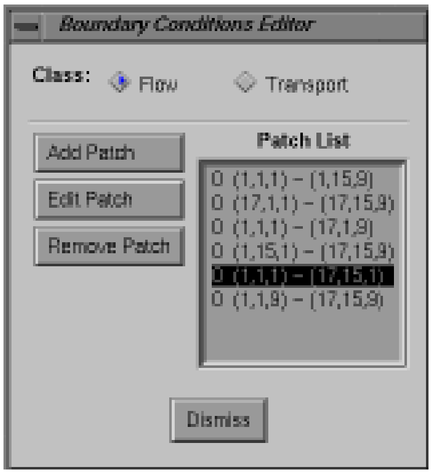


Figure 13: Boundary Conditions Patch List

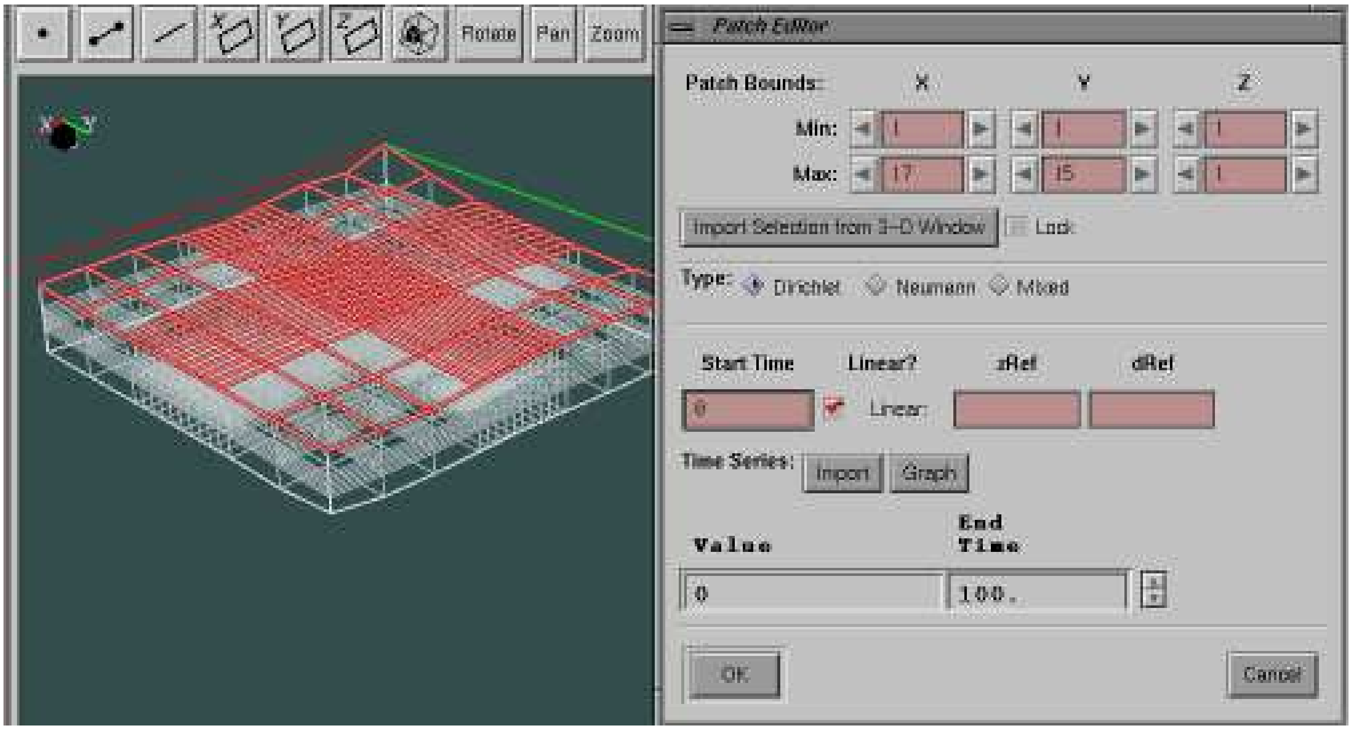


Figure 14: Boundary Condition Patch Editor

Figure 15: **Edit Patch** Options – a) Time Series Table, b) Graph

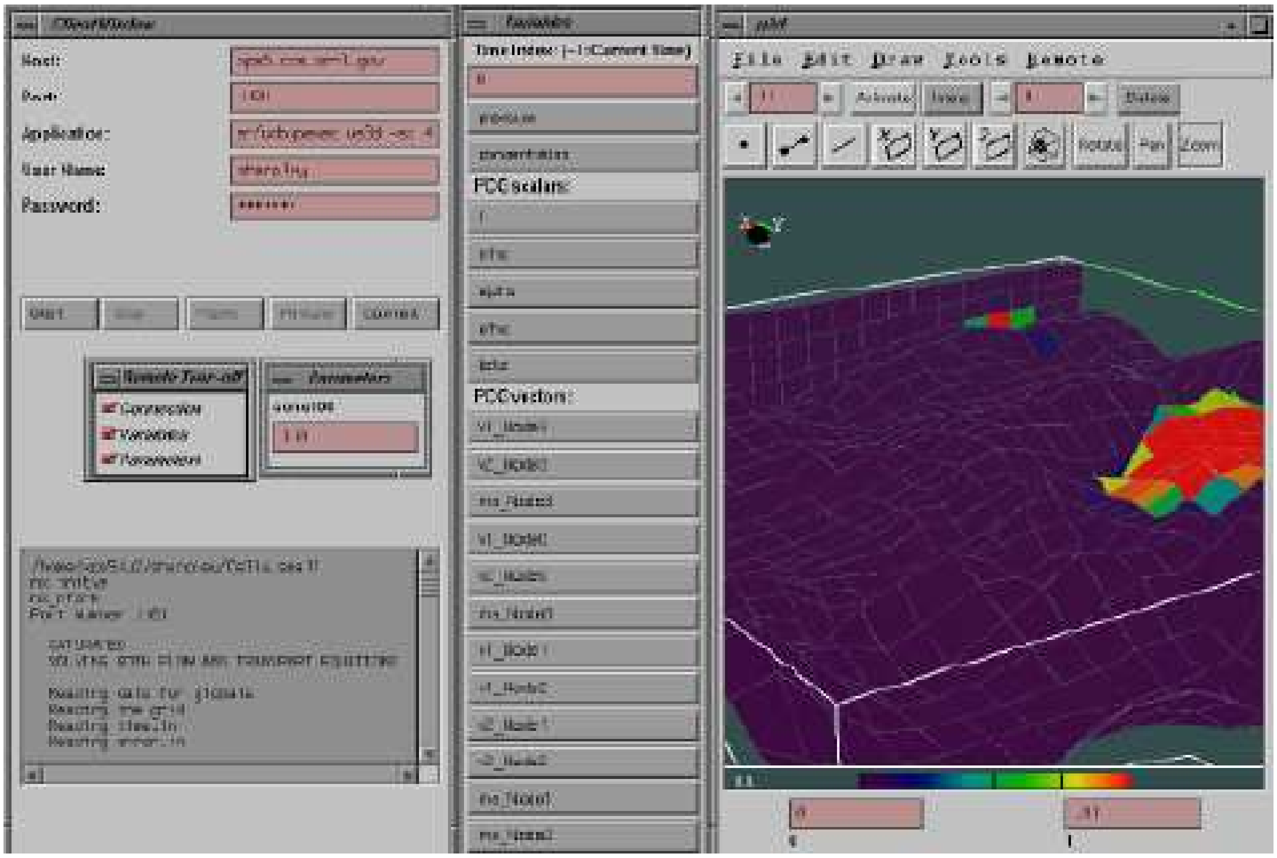
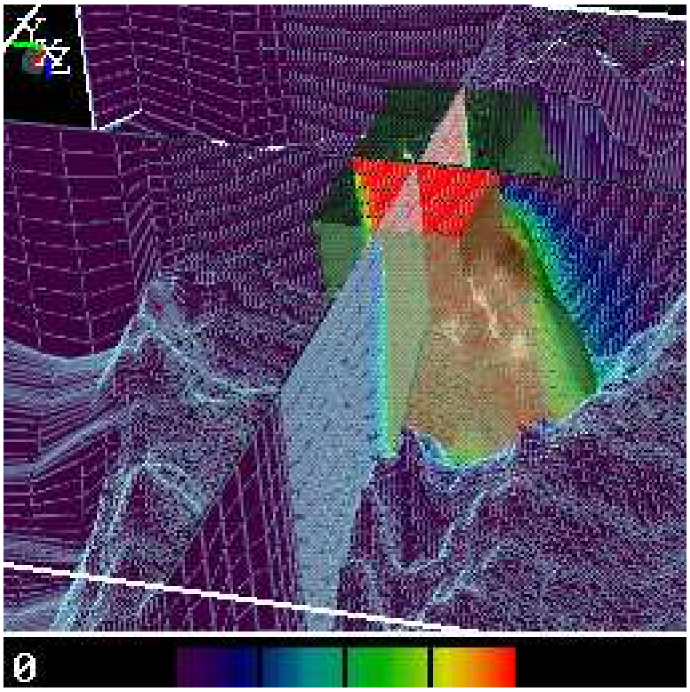
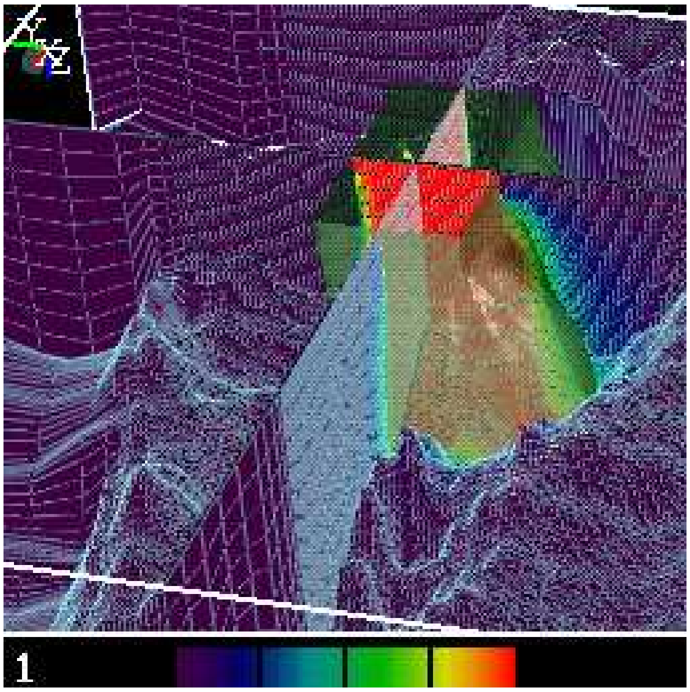


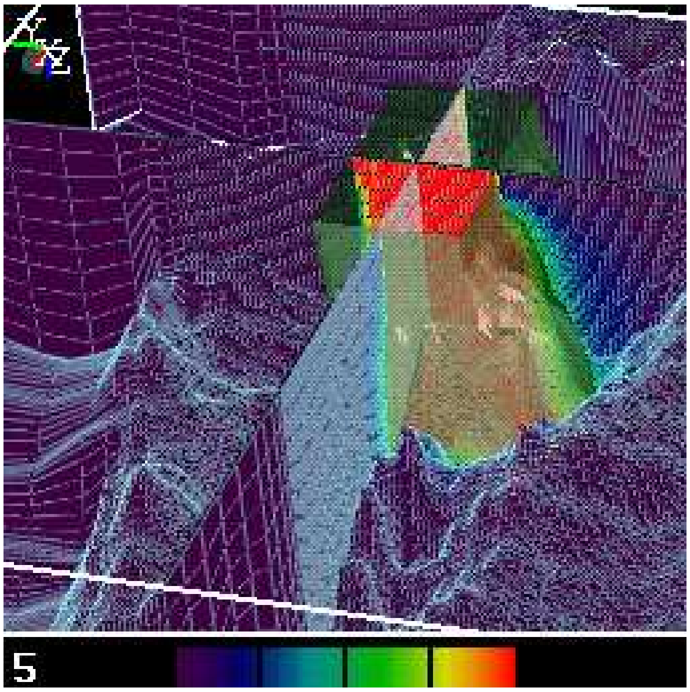
Figure 16: Connection Interface Widget



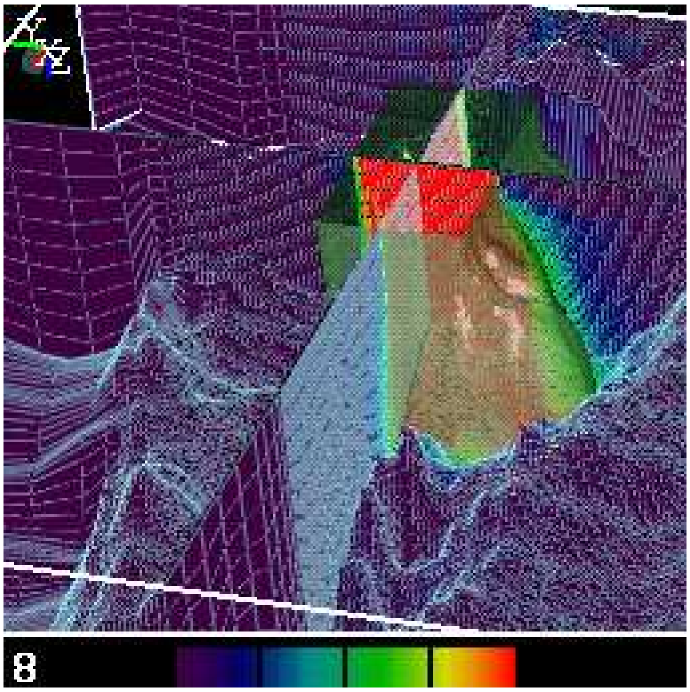
(a)



(b)



(c)



(d)

Figure 17: Comparision of Compressed Data to original Scalar Field: a) Original data and Compression Rates of b) 172, c) 493, and d) 1200 times compression.

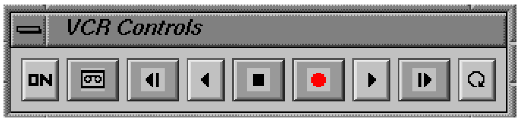


Figure 18: VCR Control Widget.

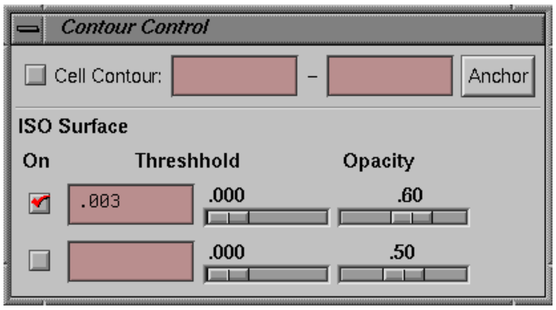


Figure 20: Contour Widget

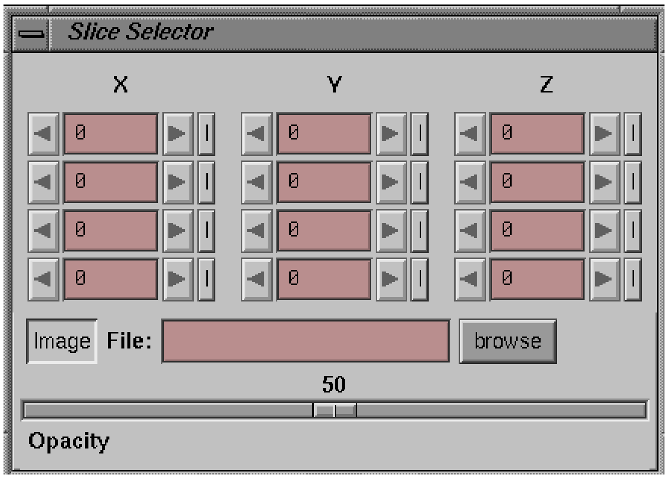


Figure 19: Overlaying Images.

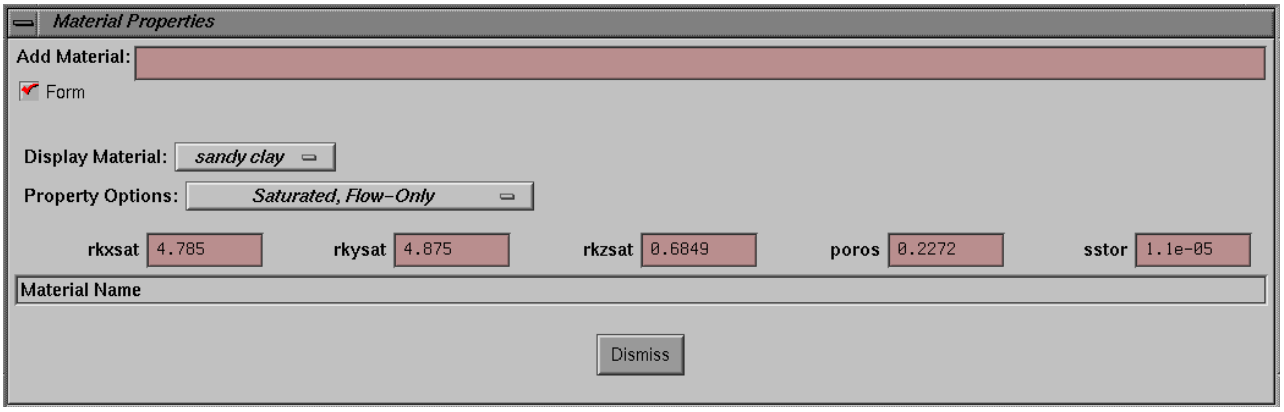


Figure 21.a: Forms Feature – setting parameters for a simple model.

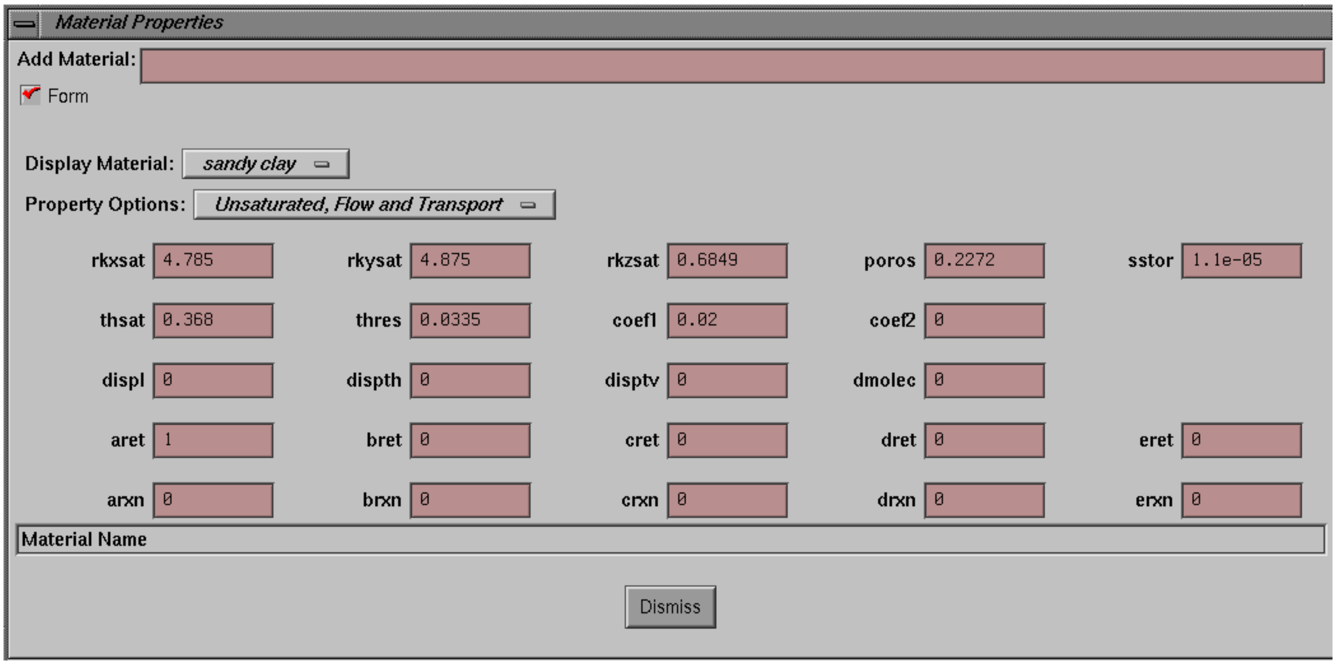


Figure 21.b: Forms Feature – a more complicated model.