

## 3D Finite Difference Method Using Discontinuous Grids (5)

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One of the biggest problems currently in performing a 3-D waveform simulation using an FDM with a realistic model is severe computational requirements. It was shown that using inhomogeneous grids was efficient to reduce these requirements. Two kinds of FD formulations were proposed. One of them was using discontinuous grid and another one was using grids with nonuniform spacing. Combining these two methods, we propose FDM with nonuniform-discontinuous grid which makes it possible to choose the grid to be adapted to the velocity structure.

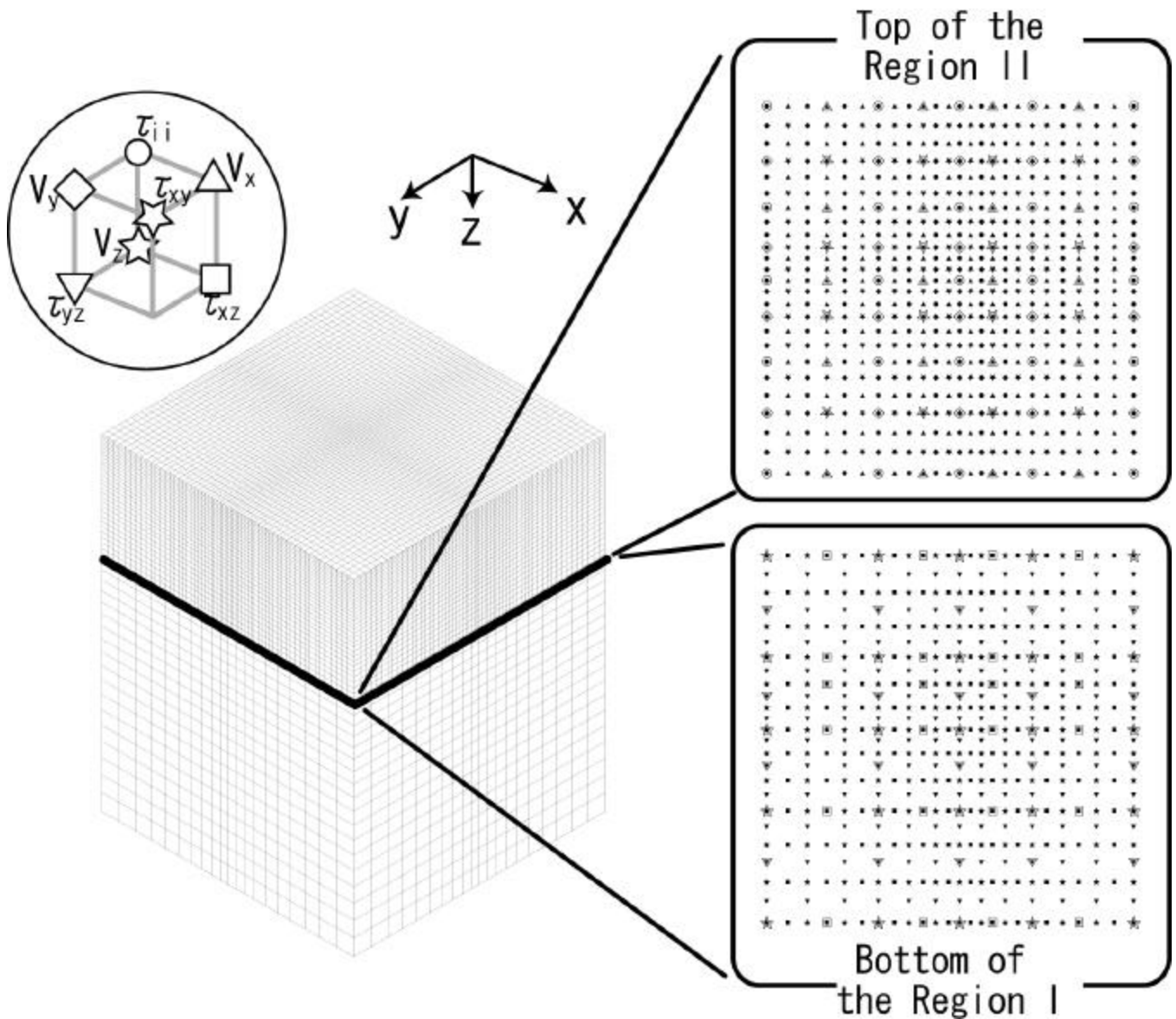


Figure: (left) 3D non-uniform-discontinuous grid system and a unit cell for staggered grids (inside the circle). (right) Two transverse sections on the top and at the bottom of the overlapping region of Regions I and II, where the elimination or the insertion of grids are necessary.