

ONE INTERPRETATION OF 3D MESH

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In the work we consider several systems of expanding cubes. The system of two 3D cubes; the system of three 3D cubes [4], the system of four 3D cubes [5]. Correspondingly, we have 1 nested cube, 2 nested cubes, 3 nested cubes. By method of induction we obtain the formulas for system of M expanding cubes. Correspondingly, we have M-1 nested cubes.

Consider 3D cubic mesh. We interpret the mesh as system of M expanding mesh cubes: $V_{M-1}^h \subset \dots \subset V_1^h \subset V^h$. The step of the mesh $h=1/(N-1)$. The edge of the boundary mesh cube V^h has $N=2M$ mesh nodes. By method of induction we obtain the formulas for faces of M expanding mesh cubes $\Gamma^h, \Gamma_1^h, \dots, \Gamma_{M-1}^h$.

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