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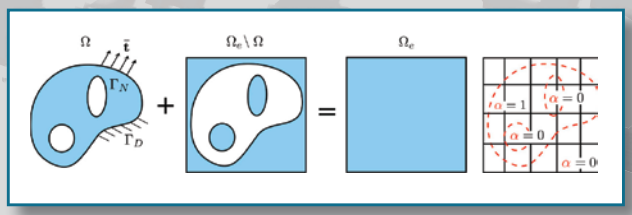
gacm German Association for Computational Mechanics

# Report

the german association for computational mechanics

## The finite cell method – a fictitious domain approach for structural analysis

Alexander Düster, Stephan Heinze, Simeon Hubrich



## Image-based modelling of heterogeneous structures

Carolin Birk

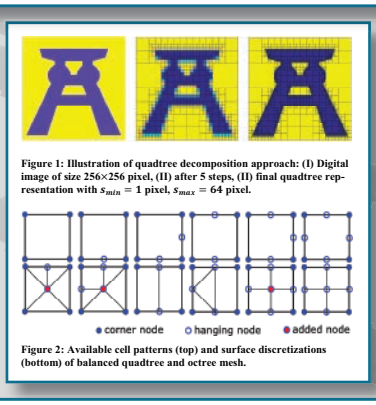
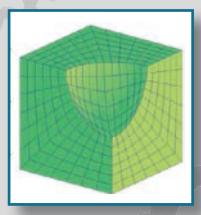



Figure 1: Illustration of quadtree decomposition approach: (I) Digital image of size 256×256 pixel, (II) after 5 steps, (II) final quadtree representation with $s_{min} = 1$ pixel, $s_{max} = 64$ pixel.

Figure 2: Available cell patterns (top) and surface discretizations (bottom) of balanced quadtree and octree mesh.

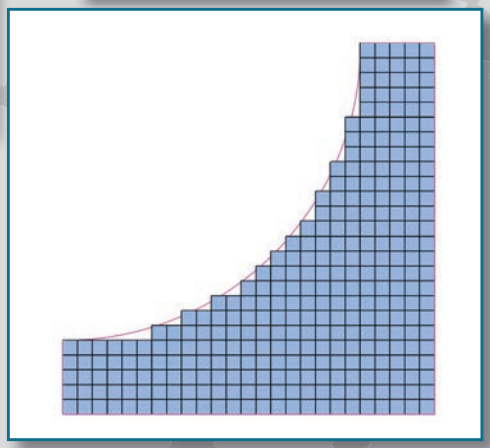
## Boundary oriented methods for the modeling of nonlinear problems in solid mechanics

Margarita Chasapi, Clarissa Arioli, Bernd Simeon, Sven Klinkel



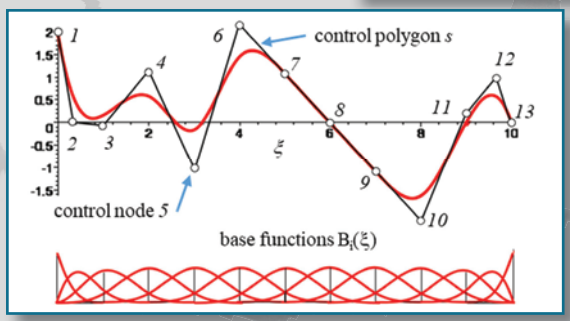
## Quadrilateral and hexahedral mesh generation with integer-grid maps

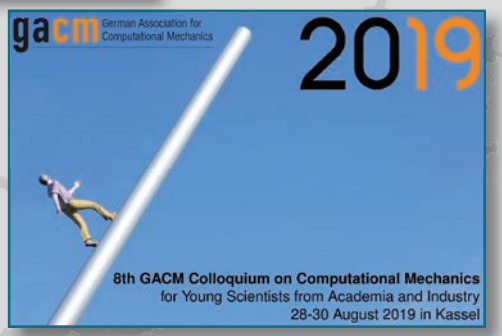
David Bommes



## Form finding by shape optimization and Vertex Morphing

Kai-Uwe Bletzinger




## Conferences

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CFRAC 2019, M-FET 2019, ICCCM 2019,
MULTIBODY 2019, IGA 2019, ICBT 2019