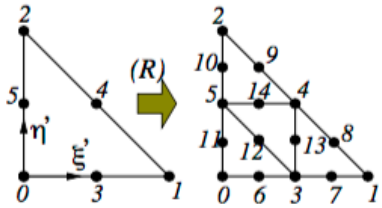

Figure 11. Refinement of the 6-node triangle.

compatibility.

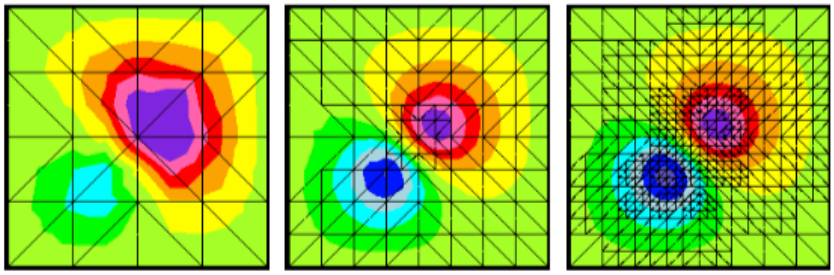

Figure 12. Dipole equation with homogeneous boundary conditions solved on a triangulation of square domain with 6-node quadratic triangles. Color coding of the field on three refined grids.

From: Petr Krysl, Abhishek Trivedi and Baozhi Zhu, "Object-oriented hierarchical mesh refinement with CHARMS", International Journal of Numerical Methods in Engineering, 2002

Professor Petr Krysl

See:
http://jacobsschool.ucsd.edu/faculty/faculty_bios/index.sfe?fmp_recid=170
http://hogwarts.ucsd.edu/~pkrysl/papers.html
http://ucsd.academia.edu/PetrKrysl/Papers

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Research Interests:
Finite element computational modeling techniques for solids and structures, model order reduction in nonlinear mechanics, and computer and engineering simulations in multiphysics problems.

Petr Krysl has made major advances in finite element and meshless discretization methods applied to problems of structural and solid mechanics: mesh generation, thin shell simulations, adaptive nonlinear computations, dynamic crack growth, adaptive mesh refinement, and parallel algorithms. Krysl is currently working on problems of optimal modeling for nonlinear dynamic applications, such as earthquake engineering and design of micromechanical devices, and adaptive finite element modeling for multiphysics problems. His research interests include finite element technology for computational mechanics of solids and structures; mesh generation and CAD/analysis integration; methods for solid and structural dynamics; computational modeling in earthquake engineering; and model order reduction for nonlinear dynamics. Recently, Krysl designed an adaptive finite element mesh refinement technique that is proving to be an important tool for engineering and scientific simulations.

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Selected Publications:
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