

Re: finite volume two dimensional steady-state diffusion in unstructured triangular mesh

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- *From:* spellucci@xx (Peter Spellucci)
 - *Date:* Tue, 9 Jan 2007 15:54:03 +0000 (UTC)
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In article <1168351573.837266.101780@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, "[=?iso-8859-1?q?Erik_Wikstr=F6m?="](mailto:eriwik@xxxxxxxxxxxxxxxxxxxxxxxx) <eriwik@xxxxxxxxxxxxxxxxxxxxxxxx> writes:

I have a mesh consisting of triangles on which I'm to calculate heat conduction. I understand how to calculate when the mesh consists of structured square cells and I have an idea of how to do it with triangles, but I'm wondering if someone have any good documentation just to be sure.

My problem is this, how to select the centre of the triangle and how to calculate the distance between nodes. My current idea is to use the centroid as centre and to calculate the distance between nodes by taking the shortest distance from the centre to shared edge for both the triangles and adding them up. Does anyone know how this is usually done?

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Erik Wikstr=F6m

in the subject line you had "finite volume" : then you must take the center of the circumscribed circle in order to get connections which cut the edges orthogonally. you compute the distance as the euclidean distance and apply standard finite differences in order to express the normal derivatives
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peter
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