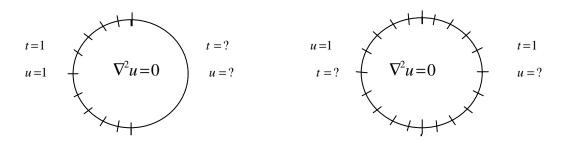
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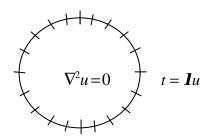
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ill-posed problem

well-posed problem

- 1. Solve the well-posed and ill-posed problems.
- 2. Examine the condition number in the influence matrices for the well-posed and ill-posed problems.
- 3. Find the eigenvalue of $\mathbf{1}$ and the boundary mode.



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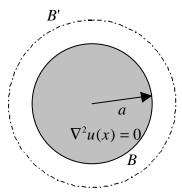
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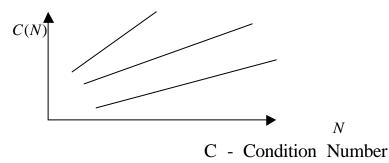
國立台灣海洋大學河海工程研究所邊界元素特論主題三

Equivalence of different BEMs using circulants



- 1. Direct method UT formulation
- 2. Direct method LM formulation
- 3. Indirect method UL(B) formulation
- 4. Indirect method TM(B) formulation
- 5. Indirect method UL(B') formulation
- 6. Indirect method TM(B') formulation
- 7. Null-field equation method UT formulation
- 8. Null-field equation method LM formulation
- 9. Trefftz method
- 10. Method of fundamental solution

Plot condition number versus N



N - Numbers of Elements

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- 1. S.R. Kuo, J.T. Chen and C.X. Huang, Analytical study and numerical experiments for true and spurious eigensolutions of a circular cavity using the real-part BEM, Int. J. Numer. Meth. Engng ,Vol.48, pp.1401-1422, 2000.
- 2. G. Fairweather and R.L. Johnston, The method of fundamental solutions for problems in potential theory, in Treatment of Integral Equations by Numerical Methods, edited by T.H. Baker and F. Miller, Academic Press, London, UK,1982.

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