

## A Beginner's Course in Boundary Element Methods

This is a course in boundary element methods for the absolute beginners. Basic concepts are carefully explained through the use of progressively more complicated boundary value problems in engineering and physical sciences. The readers are assumed to have prior basic knowledge of vector calculus (covering topics such as line, surface and volume integrals and the various integral theorems), ordinary and partial differential equations, complex variables, and computer programming.

**Whye-Teong Ang** graduated with a PhD in Applied Mathematics from the University of Adelaide, Australia, in 1987. He has published over 70 research papers, many of which are on the boundary element methods, in various international journals. He is presently affiliated with Nanyang Technological University in Singapore.



A Beginner's Course in Boundary Element Methods

ANG

## A Beginner's Course in Boundary Element Methods

$$\begin{aligned} \pi &= 3.1415926535897932 \\ \Phi &= 0.50 \cdot \ln(r) / \pi \\ \Phi &= 0.25 \cdot \text{BesselY0}(w \cdot r) \\ \Phi &= -0.25 / (\pi \cdot r) \\ \Phi &= -0.25 / (\pi \cdot r) \cdot \cos(w \cdot r) / (\pi \cdot r) \\ \Phi &= -0.25 \cdot \cos(w \cdot r) / (\pi \cdot r) \end{aligned}$$

**Whye-Teong Ang**