

Straight boundary (BEM 修課生)

Singular case

x_2, s_2
 $\triangle$ Origin of observer
 $\bullet$ Collocation point
 $\rightarrow$ Boundary

B_3
 B_4
 $\nabla^2 u(x) = 0, x \in D$
 B_2
 B_1
 $(0.5, 0)$
 x_1, s_1

$$U(s, x) = \begin{cases} U^i(R, \theta; \rho, \phi) = \ln R - \sum_{m=1}^{\infty} \frac{1}{m} \left(\frac{\rho}{R}\right)^m \cos m(\theta - \phi), & R > \rho \\ U^e(R, \theta; \rho, \phi) = \ln \rho - \sum_{m=1}^{\infty} \frac{1}{m} \left(\frac{R}{\rho}\right)^m \cos m(\theta - \phi), & \rho > R \end{cases}$$

where $x = (0.5, 0)$