

國立台灣海洋大學河海工程研究所 BEM 第 5 次作業

1. In the course, we have represented the solution by using single layer potential

$$u(x) = \int_B U(s, x) \mathbf{f}(s) dB(s), \quad x \in D.$$

Can we represent the field solution by

$$u(x) = \int_B T(s, x) \mathbf{y}(s) dB(s), \quad x \in D.$$

$$u(x) = \int_B L(s, x) \mathbf{f}(s) dB(s), \quad x \in D.$$

$$u(x) = \int_B M(s, x) \mathbf{y}(s) dB(s), \quad x \in D.$$

2. In the same way, can we represent the solution by

$$u(x_i) = \sum_j U(s_j, x_i) \mathbf{f}_j,$$

$$u(x_i) = \sum_j T(s_j, x_i) \mathbf{y}_j,$$

$$u(x_i) = \sum_j L(s_j, x_i) \mathbf{f}_j,$$

$$u(x_i) = \sum_j M(s_j, x_i) \mathbf{y}_j.$$