邊界元素法作業二

1. By intoducing a small term $qu(x)$ into

$$\frac{d^2u(x)}{dx^2} = \delta(x-s),\ -\infty < x < \infty \tag{1}$$

we can obtain

$$\frac{d^2u(x)}{dx^2} - qu(x) = \delta(x-s),\ -\infty < x < \infty \tag{2}$$

We have solved the fundamental solution for Eq.(1) by the limiting process of the results in Eq.(2) in the course.

2. In the same way, by intoducing a small term $pu(x)$ into

$$\frac{d^4u(x)}{dx^4} = \delta(x-s),\ -\infty < x < \infty \tag{3}$$

we have

$$\frac{d^4u(x)}{dx^4} + pu(x) = \delta(x-s),\ -\infty < x < \infty \tag{4}$$

Solve the fundamental solution for Eq.(3) by the limiting process of the results in Eq.(4).

3. Summary: methods for solving fundamental solution
   (1). subsection method
   (2). transform methods by introducing a small term(single pole of residue)
   (3). transform methods directly(higher pole of rsidue)