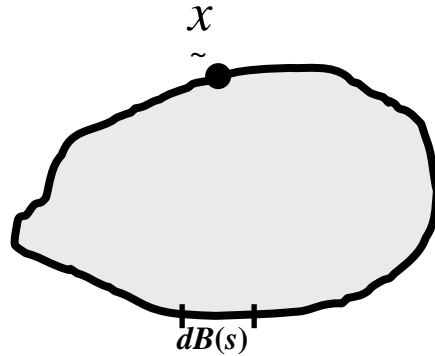


程式 79 Imaginary-part BEM (Plate vibration)



Formulation

$$u(x) = -\int_B U(s, x)v(s)dB(s) + \int_B \Theta(s, x)m(s)dB(s) - \int_B M(s, x)\theta(s)dB(s) + \int_B V(s, x)u(s)dB(s)$$

$$\theta(x) = -\int_B U_\theta(s, x)v(s)dB(s) + \int_B \Theta_\theta(s, x)m(s)dB(s) - \int_B M_\theta(s, x)\theta(s)dB(s) + \int_B V_\theta(s, x)u(s)dB(s)$$

$$m(x) = -\int_B U_m(s, x)v(s)dB(s) + \int_B \Theta_m(s, x)m(s)dB(s) - \int_B M_m(s, x)\theta(s)dB(s) + \int_B V_m(s, x)u(s)dB(s)$$

$$v(x) = -\int_B U_v(s, x)v(s)dB(s) + \int_B \Theta_v(s, x)m(s)dB(s) - \int_B M_v(s, x)\theta(s)dB(s) + \int_B V_v(s, x)u(s)dB(s)$$

Numerical integration

$$\int K(s, x)\phi(s)dB(s) = \sum_{i=1}^I K(s_i, x)\phi(s_i)$$

Package of Gaussian integration

CALL GRULE

CALL ARRANGE

Transformation

$$\int K(s, x)\phi(s)dB(s) = \int_{-1}^1 K(\tau, x)\phi(\tau)d\tau$$