

DESCRIPTION

BHS

Helmholtz equation

$$\Delta u(x, y) + k^2 u(x, y) = q(x, y)$$

$$x \in [-1, 1], y \in [-1, 1]$$

$$u(x, y) = u(x, y) \quad (x, y) \in \partial\Omega$$

$$q(x, y) = -(a_1\pi)^2 u - (a_2\pi)^2 u + k^2 u$$

$$u(x, y) = \sin(a_1\pi x)\sin(a_2\pi y)$$

REFERENCES

- [1] Wang S, Teng Y, Perdikaris P. Understanding and mitigating gradient flow pathologies in physics-informed neural networks[J]. SIAM Journal on Scientific Computing, 2021, 43(5): A3055-A3081.