DESCRIPTION

BHS

$$\Delta u(x,y) + u(x,y)\frac{\partial u}{\partial y} = sin(\pi x)(2 - \pi^2 y^2 + 2y^3 sin(\pi x))$$
$$x, y \in [0,1]$$

$$u(0,y) = 0$$
$$u(1,y) = 0$$
$$u(x,0) = 0$$
$$\frac{\partial u(x,1)}{\partial y} = 2sin(\pi x)$$

$$u(x,y) = y^2 sin(\pi x)$$

References

[1] Lagaris I E, Likas A, Fotiadis D I.Artificial neural networks for solving ordinary and partial differential equations[J].IEEE transactions on neural networks, 1998, 9(5): 987-1000.