JEDNAČINE MATEMATIČKE FIZIKE - mart 2002

1. Rešiti Košijev problem

$$\begin{cases} yu_{xx} + (x-y)u_{xy} - xu_{yy} = 0 \\ u(x,0) = 0 \\ u_y(x,0) = x^2 \end{cases}$$

2. Rešiti mešoviti problem

$$\begin{cases} u_{tt} = a^2 u_{xx}, \quad 0 < x < l, t > 0 \\ u_x(0,t) = 0 \\ u(l,t) = 0 \\ u(x,0) = \cos\dfrac{\pi x}{2l} \\ u_t(x,0) = \cos\dfrac{3\pi x}{2l} + \cos\dfrac{5\pi x}{2l} \end{cases}$$

3. Rešiti mešoviti problem

$$\begin{cases} u_t = u_{xx} + 4u_x + x - 4t + 1 + e^{-2x}\cos^2\pi x, \quad 0 < x < 1, \quad t > 0 \\ u(0,t) = t \\ u(1,t) = 2t \\ u(x,0) = 0 \end{cases}$$

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