

JEDNAČINE MATEMATIČKE FIZIKE - februar 2002

1. Rešiti Košijev problem

$$\begin{cases} u_{xx} + 2(1+2x)u_{xy} + 4x(1+x)u_{yy} + 2u_y = 0 \\ u(0, y) = y \\ u_x(0, y) = 2 \end{cases}$$

2. Rešiti mešoviti problem

$$\begin{cases} u_{tt} = u_{xx} + x, & 0 < x < \pi, \quad t > 0 \\ u(0, t) = 0 \\ u(\pi, t) = 0 \\ u(x, 0) = \sin 2x \\ u_t(x, 0) = 0 \end{cases}$$

3. Rešiti mešoviti problem

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

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