In this paper the comparative analysis of various methods that are nowadays in use for solving twodimensional steady state and time-dependent singularly perturbed problems is presented. The central-difference scheme, upwind scheme and exponential fitting in the coordinate and convection directions in combination with various time discretization techniques are applied both on uniform and nonuniform meshes. The methods are tested on different examples with boundary and interior layers.

A METHOD FOR APPROXIMATE CALCULATION OF MULTIPLE INTEGRALS OVER N - SPHERE

Miodrag M. Spalević
Faculty of Sciences, Kragujevac

We construct a cubature formula for computing the multiple integral

$$\int_{S_n} f(x)dx = \int \dots \int f(x)dx_1 \cdots dx_n$$

of a real function f of $x = (x_1, \dots, x_n) \in E_n$, where S_n is the unit of the n–sphere $\{x \in E_n |\ x_1^2 + x_2^2 + \ \dots \ + x_n^2 \leq 1\}$, $n \geq 3$, and E_n is the n–dimensional Euclidean space. In the construction of our cubature we use the products of the formulas of Gauss, Rectangle and Turán's type. This method is based on the results that have been recently obtained by Gradimir V. Milovanović and the author for Turán's quadrature formulas.

AN ITERATIVE METHOD FOR LINEAR PROGRAMMING

Liljana Stefanovska
Faculty of Technology, Skopje
Goran Trajkovski
Faculty of Electrical Engineering, Skopje

A method for solving the classical LP problem of maximization, based on an iterative procedure is presented. This procedure starts an interior feasibility

UNIVERSITY OF NOVI SAD
FACULTY OF SCIENCE AND
MATHEMATICS
INSTITUTE OF MATHEMATICS

XIII Conference on Applied Mathematics

PRIM '98

ABSTRACTS

Igalo, May 25-29, 1998