Table of Contents

Introduction 1

The choice of the weight functions 2

Computation and verification of the tables 3

Arrangement of the tables 5

Examples 5

Interpolation in the parameter α 6

Bibliography 8

TABLE 1. Values of the tabular points x_k and the coefficients A_k of the quadrature formula $\int_0^1 x^\alpha \ln \frac{e}{x} f(x)\,dx \approx \sum_{k=1}^{n} A_k f(x_k)$ ... 9

TABLE 2. Values of the tabular points x_k and the coefficients A_k of the quadrature formula $\int_0^1 x^\beta \ln \frac{e}{x} \ln \frac{e}{1-x} f(x)\,dx \approx \sum_{k=1}^{n} A_k f(x_k)$. 153

TABLE 3. Values of the tabular points x_k and the coefficients A_k of the quadrature formula $\int_0^1 \ln \frac{1}{x} f(x)\,dx \approx \sum_{k=1}^{n} A_k f(x_k)$ ... 161

TABLE 4. Values of the tabular points x_k and the coefficients A_k of the quadrature formula $\int_0^{1\infty} x^\beta e^{-x} \ln\left(1+\frac{1}{x}\right) f(x)\,dx \approx$

$\approx \sum_{k=1}^{n} A_k f(x_k)$ 165