

Year: 2020

Vol.: 97

Fasc.: 1-2

Title: Monotonicity, convexity and inequalities related to complete (p, q, r) -elliptic integrals and generalized trigonometric functions

Author(s): Li Yin, Xiu-Li Lin and Feng Qi

In the paper, making use of the monotonicity theorem for the ratio of two power series, the Čebyšev integral inequality for monotonic functions and the Hermite–Hadamard integral inequality for convex functions, the authors establish monotonicity, logarithmic and geometric convexity and concavity, logarithmic and identric mean inequalities, the Turán-type inequalities, and complete monotonicity of several functions involving complete (p, q, r) -elliptic integrals and generalized arcsine and arctangent functions.

Address:

Li Yin
College of Science
Binzhou University
Binzhou 256603, Shandong
China

Address:

Xiu-Li Lin
College of Mathematics Science
Qufu Normal University
Qufu 273165, Shandong
China

Address:

Feng Qi
Institute of Mathematics
Henan Polytechnic University
Jiaozuo 454010, Henan
China

and

School of Mathematical Sciences
Tianjin Polytechnic University
Tianjin 300387
China