**On subclasses of n-p-valent prestarlike functions of order beta and type gamma**

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**Abstract**
In the present paper, we introduce the class R-p,R-n[alpha, beta, gamma, A, B] of n-p-valent alpha-prestarlike functions of order beta and type gamma with negative coefficients defined by a Salagean operator. Extreme points, integral operators and distortion theorems of this class are obtained. We also obtain several results for the radius of starlikeness, convexity and modified Hadamard products of functions belonging to this class. (C) ٢٠١٣ Published by Elsevier Ltd

**KeyWords**: Prestarlike functions; Analytic functions; S alagean operator; Fractional integral operator.
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## On certain subclasses of meromorphic functions associated with certain differential operators


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**Abstract**

In this work, we study some subordination and convolution properties of certain subclasses of meromorphic functions which are defined by a previously mentioned differential operator. Crown Copyright (C) ٢٠١١ Published by Elsevier Ltd. All rights reserved.



**KeyWords**: Analytic; Meromorphic functions; Differential operator; Convolution

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**Some Applications of Srivastava-Attiya Operator to p-Valent Starlike Functions**

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**Abstract**
We introduce and study some new subclasses of p-valent starlike, convex, close-to-convex, and quasi-convex functions defined by certain Srivastava-Attiya operator. Inclusion relations are established, and integral operator of functions in these subclasses is discussed.

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## Closed periodic orbits of convective solutions in rapidly rotating system: Double torus knots and links, DTK

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**Abstract**
The classification of closed periodic orbits of convection in a rapidly rotating system is given. It is shown that double torus knots and links, DTK, do occur, which is a very wide and important class of knots and links. We also proved that there is no double torus Lorenz knots, this answers question ٦ raised by Hill and Murasugi in [Peter Hill, On double-torus knots ١.J Knot Theor Ramif ١٩٩٩;٨(٨):١٠٠٩-٤٨]. It is also shown that the system produces torus knots and links, for some specific parameters. In fact this approach suggests the study of double torus knots and links through dynamical tools, such as symbolic dynamics and templates. (C) ٢٠٠٦ Published by Elsevier Ltd.

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**Torus knots and links from Eikonal equations and knot invariants for classification of atoms**

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**Abstract**

The history of knot theory and physics has a deep roots. It started by Lord Kelvin, in ١٨٦٧, when he conjectured that atoms were knotted vortex tubes of ether. In ١٩٩٧, Faddeev and Niemi suggested that knots might exist as stable soliton solution in a simple three dimensional classical field theory. That opening up a wide range of possible applications in physics. In this work we consider the Eikonal equation, which is a partial differential equation describing the traveltime propagation, which is an important part of seismic imaging algorithms. We will follow the work of Wereszczynski of solving the Eikonal equation in cylindrical coordinates. We show that only torus knots and links do occur, so figure eight knot does not occur. We show that these solutions are not unique, which means the possible occurrence of the same knot type for different configurations. Using the idea of framed knots, it is shown that two Eikonal knots are equivalent if and only if they are ambient isotopic as a framed knots, i.e. if and only if they are of the same knot type and of the same twisting number.

**KeyWords**: solitons; knots and links; braids
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