In this issue

Research Article

Modeling of active thermography through uncertainty quantifi cation of parameters of the heat transfer equation

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Active thermography is an experimental technique used to analyze samples of materials or entire structures without destroying them, by means of a heat source, such as a laser beam of a given power. ...

Abstract View   Full Article View   Additional File(s)   DOI: 10.17352/amp.000009

An analysis of ammonia synthesis by the model of Selective Energy Transfer (SET)

Author(s): Ragnar Larsson*

The SET theory implies that energy is transferred from the catalyst system via infrared radiation to the molecules that are supposed to react. In previous investigations it has been demonstrated that the activation of the reacting species-as long as the molecules are infrared active-can occur at low adsorption strength. However, for molecules that are IR inactive, e.g ...

Abstract View   Full Article View   DOI: 10.17352/amp.000008

The quadratic Poisson structures and related nonassociative noncommutative Zinbiel type algebras

Author(s): Orest D Artemovych, Alexandr Balinsky and Anatolij K Prykarpatski*

There are studied algebraic properties of the quadratic Poisson brackets on nonassociative noncommutive algebras, compatible with their multiplicative structure. Their relations both with differentiations of the symmetric tensor algebras and Yang-Baxter structures on the adjacent Lie algebras are demonstrated. ...

Abstract View   Full Article View   DOI: 10.17352/amp.000007

The dispersionless completely integrable heavenly type Hamiltonian flows and their differential-geometric structure

Author(s): Oksana E Hentosh, Yarema A Prykarpatsky, Alexandr Balinsky and Anatolij K Prykarpatski*

There are reviewed modern investigations devoted to studying nonlinear dispersiveless heavenly type integrable evolutions systems on functional spaces within the modern differential-geometric and algebraic tools. Main accent is done on the loop diffeomorphism group vector fields on the complexified torus and the related Lie-algebraic structures, generating dispersionl ...

Abstract View   Full Article View   DOI: 10.17352/amp.000006

Mid-point technique for calculating divergent integrals

Author(s): M Abu-Shady*

A mid-point technique is introduced to overcome the diffi culties in other techniques. The modied eective interaction quark potential which uses to calculate different properties of the NJL model such as the constituent quark mass, pressure, and energy density is solved using the present technique. The present method gives good accuracy for the mathematical proble ...

Abstract View   Full Article View   DOI: 10.17352/amp.000005

Black quanta. On the thermodynamics of the black holes

Published On: July 02, 2019 | Pages: 005 - 006

Author(s): M Apostol*

It is shown that the quantized internal motion of the black holes consists of Planck quanta (Planck mass, length, time, etc), which may be called black quanta. The mass of the black hole is a integral multiple of the Planck mass, and the radius of the black hole (Schwarzschild radius) is an integral multiple of the Planck length. This circumstance arises from the p ...

Abstract View   Full Article View   DOI: 10.17352/amp.000004

Space Equations

Published On: March 04, 2019 | Pages: 001 - 004

Author(s): Prince Jessii*

Trying to observe the reason behind the differences in the nature of space that exists on earth and on the outer space led to the path were space and gravity meets. This paper presents a theory which comprises of an already existing effect that has helped to determine the following; • Space constant. • The Relationship between Space and Gravity. • Formulation of Sp ...

Abstract View   Full Article View   DOI: 10.17352/amp.000003