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विश्वविद्यालय अनुदान आयोग का एक स्वायत्त संस्थान

Research Paper- 1: Dr. Kishor Kumar Deka (2018)



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The Notion of Religion and Religiosity: A Study of Aravind Adiga's *The White Tiger*

Author: Dr. Kishor Kumar Deka, Assistant Professor, Department of English, B.B.K. College, Nagaon, Barpeta (Assam)

ABSTRACT

The White Tiger is the debut novel of Aravind Adiga. It was first published in 2008 and won the Man Booker Prize in the same year. The Man Booker Prize made Adiga famous instantly and he got abundant response everywhere. This novel portrays the contrast between India's rise as a modern global super-power and a humiliating rural poverty from where the central character of the novel Balram Halwai belongs. Here, Adiga explores some grim facet of Indian life and the novel is a trenchant critique of contemporary India. It bypasses the superlatives of the economic boom to tell the story of an India that is savage and dark. This paper is an attempt to analyze the novel with particular focus on the notion of religion which exposes the decline of religious values in all spheres of life due to advancement of modern civilization in India.

Key Words: *Religion, Poverty, Dark, Savage, White Tiger*

Literature is known to have changed the direction of the human mind and set in motion actions that have altered our ways of life. The impact of literature on society is felt directly or indirectly. Many of the modern authors have approached literature from the perspectives of economic, ethical, sociological, political, religious or educational question; and thus literature proves to be the most effective tool to deliver their socialistic agenda. *The White Tiger* is the debut novel of author Aravind Adiga. It was first published in 2008 and won the Man Booker Prize in the same year. Other works of Aravind Adiga includes *Between the Assassinations* (2008) and *Last Man in Tower* (2011). Aravind Adiga was born in Madras (now called Chennai) in 1974 and has subsequently lived in India, Australia, the U.S. and the U.K. The

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Research Paper- 2: Dr. Sadhana Medhi (2019)

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© Indian Mycological Society, Department of Botany,
University of Calcutta, Kolkata 700 019, India

Mycoparasitic *Trichoderma viride* and *T. harzianum* as biocontrol agents against fungal pathogens causing diseases of rhizome of Ginger (*Zingiber officinale* Rosc.)**SADHANA MEDHI¹, RAMESH DAS^{1*} AND TARUN CHANDRA SARMA²**¹Department of Botany, Baosi Banikanta Kakati College, Nagaon, Barpeta, Assam²University of Science and Technology Meghalaya(USTM),Baridua 793101, Meghalaya

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Published : 29.04.2019

Isolates of *Trichoderma viride* and *T. harzianum* isolated from soil of crop field of healthy plants were selected for screening the antagonistic effect against seven fungal pathogens causing diseases of rhizome of ginger by dual culture technique. Although both antagonists were proved as effective biocontrol agents, *T. viride* was found to be more effective than *T. harzianum* against all the fungal pathogens and maximum inhibition was reported in *F. oxysporum* as 76% and 57% respectively. Isolates of *Trichoderma viride* and *T. harzianum* isolated from soil of crop field of healthy plants were selected for screening the antagonistic effect against seven fungal pathogens causing diseases of rhizome of ginger by dual culture technique. Although both antagonists were proved as effective biocontrol agents, *T. viride* was found to be more effective than *T. harzianum* against all the fungal pathogens and maximum inhibition was reported in *F. oxysporum* as 76% and 57% respectively.

Key words: *Trichoderma*, antagonistic effect, ginger, dual culture technique

INTRODUCTION

Ginger (*Zingiber officinale* Rosc) (Family: Zingiberaceae) is a herbaceous perennial, the rhizomes of which are used as a spice and medicine in almost all parts of world. It has been traditionally used as antimicrobial, antioxidant, anti-inflammatory, anti-fungal agents. India is a leading producer of ginger in the world. In India, ginger is grown in almost all the states.

The main producing states in India are Assam, Kerala, Gujarat, Mizoram, Sikkim, Orissa, Arunachal Pradesh and Meghalaya. A huge amount of ginger is affected by fungi in storage condition despite of having its own antifungal property (Shariffar *et al.* 2009) It is reported that more than fifteen fungi are responsible for rhizome rot of ginger and *Aspergillus flavus*, *A. fumigatus*, *A. niger*, *Fusarium oxysporum*, *Monilia fructicola*, *Penicillium italicum* and *Rhizopus stolonifer* are among them. Fungicides are the primary means of controlling post-harvest diseases. Further, the use of synthetic chemicals to control postharvest

deterioration has been restricted due to their carcinogenicity, teratogenicity, high and acute residual toxicity, long degradation period, environmental pollution and their direct effects on food and other side effects on humans. Another problem with these synthetic chemicals is that as their potency has been enhanced, so have been their side effects and their cost. In addition, synthetic fungicides can leave significant residues in treated commodities. Development of resistance to commonly used fungicides within populations of postharvest pathogens has also become a significant problem. The side-effects of synthetic fungicides means that alternative strategies need to be developed for reducing losses due to postharvest decay that are perceived as safe by the public and pose negligible risk to human health and environment. Recently, several promising biological approaches that include microbial antagonists which has been advanced as potential alternatives to synthetic fungicides to control postharvest decay of fruits and vegetables.

Antagonistic *Trichoderma* species are considered as promising biological control agents against numerous phytopathogenic fungi. *Trichoderma*

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Research Paper- 3: Dr. Bhupen Rabha (2020)

IRA-International Journal of Management &
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Ritual Hymns and World View of the *Totola Rabhas* of Kataligaon

Bhupen Rabha

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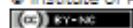
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Research Paper- 4: Gopal Kumar Sarma (2020)

Review of Integrative Business and Economics Research, Vol. 9, Supplementary Issue 1

1

Microfinance: Impact on Clients, an Empirical Study

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Indian Institute of Technology Guwahati

Gopal Kumar Sarma
B B K College, Nagaon, Barpeta

— Review of —
**Integrative
Business &
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— Research —

ABSTRACT

Microfinance, as a source of finance for small and poor borrowers has come of age in many developing countries with different models and approaches. Various studies point out about success and failures of microfinance in different settings. The real image of microfinance practice can be gauged in terms of impact on borrower. The impact of microfinance on the poor has spurred on two factions. One faction of researchers believes in the positive impact of microfinance, whereas the other contended and stresses on the negative impact. The present paper tries to examine the impact of microfinance on income, welfare on the basis of primary data collected for the purpose. The paper uses participant – non-participant approach. The paper used ANNOVA and OLS regression form to find the objectives. The analysis shows that due to participation in microfinance, consumption expenditure and income of the participant comparatively appears to be better than non-participant. ANNOVA analysis hints positive impact on welfare of borrowers, it is difficult to confirm the result. As such, regression analysis has been followed, the result of which infer that increase in expenditure is due to programme participation is not substantiated.

Keywords: *Microfinance, impact, ANNOVA, OLS*

1. INTRODUCTION

Microfinance, as a source of finance for small, poor and needy borrowers has come of age in many developing countries with different models and approaches. A number of studies point out about success and failures of microfinance in different settings over different time periods. The real image of microfinance practice can be gauged in terms of impact on borrower. There are a plethora of studies on the impact of microfinance, which demonstrate that in the presence of a supportive environment targets like millennium development goals are achievable even through commercially-oriented microfinance (Montgomery and Weiss, 2011). Besides, most of them broadly cover empowerment, socio economic impact and impact on poverty. The impact of microfinance on the poor has spurred on two factions. One faction of researchers believes in the positive impact of microfinance, whereas the other contended and stresses on the negative impact.

Brau and Woller (2004) found in a comprehensive review of over 350 articles that ten of these studies assess microfinance programs in Bangladesh, which shows program participation could exert a large positive impact on self-employment profits. Moreover credit has a significant impact on the well-being of poor households. In Bangladesh, referring to the study of Khandker (2003) it is found that program participation has positive impacts on household income, production, and employment, particularly in the rural non-farm sector,



Research Paper- 5: Dr. Manalish Deka (2020)

Home / Archives / 2020 - Volume 41 [Issue 23] / Original Research Article



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WATER QUALITY AND ICHTHYOFAUNAL DIVERSITY ASSESSMENT OF KAPLA Beel, A FLOODPLAIN WETLAND OF BARPETA DISTRICT OF ASSAM, NORTH-EAST INDIA

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Abstract

The present study was carried out for a period of one year from June 2017 to May 2018 to assess the water quality status and ichthyofaunal diversity of Kapla beel, a famous freshwater floodplain wetland of Barpeta district of Assam, North-East India. Various parameters as water temperature, pH, dissolved oxygen (DO), biological oxygen demand (BOD), total alkalinity, total hardness, free CO₂, total solid (TS), total dissolved solid (TDS), total suspended solid (TSS), turbidity and concentration of nitrogen (N), phosphorus (P) and potassium (K) were tested during the experiment by following the standard protocol provided by American Public Health Association (APHA) (2005). Fish species were collected and identified by following proper taxonomic literature. Most of the water parameters were found to be in a suitable range for its ichthyofauna except TS, TDS, TSS and N. The deleterious effect of various anthropogenic activities was observed in terms of some of the water parameters. A total of 65 economically important fish species were recorded and identified during the study period. As a whole, the wetland possesses very rich ichthyofaunal diversity with suitable water quality.

Keywords: Kapla beel, ichthyofaunal diversity, water quality, anthropogenic pressure.

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Research Paper- 6: Dr. Manalish Deka (2020)

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A Study on Ethnobotanically Important Plant Species Used against Various Gastro-Intestinal (GI) Disorders by the Indigenous People of Barpeta District of Assam, North-East India

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Abstract Plants and plant products have been used in traditional medication system to treat several human diseases since long back. The North-eastern region of India is a part of foot hills of Himalayas and Indo-Burma biodiversity hot spot and it was proved to be a home for a large number of ethnobotanically important plant species by several researchers. The present study was carried out during July, 2018 to June, 2019 for a period of one year at Barpeta district of Assam, North-East India to prepare a database on traditional knowledge of indigenous people regarding the uses of different plants to cure various Gastro-Intestinal (GI) disorders. The district is situated at a global position between 26°45'-26°50' N latitude and 90°30'-91°51'0"E longitude. Extensive field studies were conducted in the study area to obtain firsthand information on uses of ethnobotanically important plants. Sample specimens were collected and preserved during the study period. This report has documented 55 number of plant species belonging to 38 families used by the local people and especially by the traditional drug practitioners of the study area against various GI anomalies. In spite of the availability and accessibility of the modern system of medication, most of the people of the study area still depend on herbal medication system provided by

traditional drug practitioners to treat a range of GI anomalies. This documentation will help to harness this traditional knowledge and to preserve this knowledge for the betterment of future mankind.

Keywords Ethnobotany, Gastro-Intestinal (GI) Disorders, Traditional Medication

1. Introduction

Plants and plant products have been used as medicine to treat several human diseases since long ago. In a country like India, the traditionally used medication system plays an important role in health care of rural people. About 45000 number of plant species were recorded and identified in India and out of which more than 35000 plant species have been claimed to possess medicinal properties [1]. According to World Health Organization, about 80% of the World's population especially the tribal and rural dwelling population depends on herbal medications for their primary health care needs [2].

The North-eastern region of India is a part of foot hills



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Research Paper- 7: Dr. Manalish Deka (2020)

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WATER QUALITY AND ICHTHYOFAUNAL DIVERSITY ASSESSMENT OF KAPLA Beel, A FLOODPLAIN WETLAND OF BARPETA DISTRICT OF ASSAM, NORTH-EAST INDIA

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Abstract

The present study was carried out for a period of one year from June 2017 to May 2018 to assess the water quality status and ichthyofaunal diversity of Kapla beel, a famous freshwater floodplain wetland of Barpeta district of Assam, North-East India. Various parameters as water temperature, pH, dissolved oxygen (DO), biological oxygen demand (BOD), total alkalinity, total hardness, free CO₂, total solid (TS), total dissolved solid (TDS), total suspended solid (TSS), turbidity and concentration of nitrogen (N), phosphorus (P) and potassium (K) were tested during the experiment by following the standard protocol provided by American Public Health Association (APHA) (2005). Fish species were collected and identified by following proper taxonomic literature. Most of the water parameters were found to be in a suitable range for its ichthyofauna except TS, TDS, TSS and N. The deleterious effect of various anthropogenic activities was observed in terms of some of the water parameters. A total of 65 economically important fish species were recorded and identified during the study period. As a whole, the wetland possesses very rich ichthyofaunal diversity with suitable water quality.

Keywords: Kapla beel, ichthyofaunal diversity, water quality, anthropogenic pressure.

Research Paper- 8: Dr. Bhupen Rabha (2021)

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Research Paper

Translation Analysis and Assessment: An Oral Poetry of the Totola Rabhas

Dr. Bhupen Rabha
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Abstract:

In a country like India where countless dialects as vibrant as any of our developed languages exist, translation studies have a vast role as the web of knowledge and information existent among the oral communities would remain underground or turn extinct.

The present study is an analysis and assessment of an oral poetry of the Totola Rabhas aimed at examining and explaining the continuities and changes in oral poetry traditions with an assimilation motif. The growing impact of globalization and modernization has brought about changes in oral poetry traditions. The Totola Rabhas have been living in close contact with other communities having different linguistic structure and way of life. Their social life and customs have gained a mixed colour due to the non-native environment they have been exposed to. The analysis of the various songs prevalent among the Totola Rabhas are a living proof to their assimilation and innate identity though linguistically they have failed to keep a separate identity. This gives light to an excellent cultural synthesis prevalent among the Totola Rabhas. It is of utmost importance to document the oral traditions so that at least in future generations, we know our contours through the documented perspectives.

Keywords: Translation studies, Folklore, Oral Poetry, Totola Rabhas.

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India is a multilingual nation and the need for translation studies is all the more important in order to bring people belonging to different linguistic group closer. Translation is both a science and an art through which we can bridge the distances of culture and geography. In a country like India where countless dialects as vibrant as any of our developed languages exist, translation studies have a vast role as the web of knowledge and information existent among the oral communities would remain underground or turn extinct. Here, translation refers to the rendering of a literary work from one language into another, thus, matching phonological, morphological, syntactic and semantic equivalents. However, the translation of oral literature, be it poetry or narratives would initially involve transcription in the source text (ST) and then translation into the target text (TT).

The present study is an analysis and assessment of an oral poetry of the Totola Rabhas of Assam. It is sometimes argued that even if fiction or drama may be amendable to rendition in another language, any attempt to translate poetry will be an act of vandalism, an aesthetic impertinence (Varshney, 2008). It is a challenge to a translator of poetry and this gets reflected in the words of John Middleton Synge: "A Translation is not translation unless it will give you the music of poem along with the words." American poet Robert Frost famously remarked, "Poetry is what is lost in translation". This is so because form and content in poetry cannot be separated. Content is highly language-bound and this is what makes poetic translation of poetry more difficult than the other types of translations.

However, it is a humble attempt to translate and analyze an oral poetry of the Totola Rabhas. Pragmatic translation problems arose as situations in ST and TT differ to a great extent. Cultural translation problem was confronted due to differences in 'conventions (norms) and habits' (Schjoldager 2008: 175) between the ST culture and the TT culture. Linguistic translation problems and Text-Specific translation problems were also encountered. However, more of Oblique Translation methods using sense for sense procedure were used to get close to the ST.

Research Paper- 9: Dr. Kishor Kumar Deka (2021)

Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 6): pp. 742-748
<http://ilkogretim-online.org>
doi: 10.17051/ilkonline.2021.06.078

**PORTRAYAL OF HUMAN RELATIONSHIPS DECENCY IN
SELECTED TEXTS OF RUSKIN BOND****Dr. Kishor Kumar Deka**

Associate Professor, Department of English, B.B.K. College, Nagaon, Barpeta (Assam)

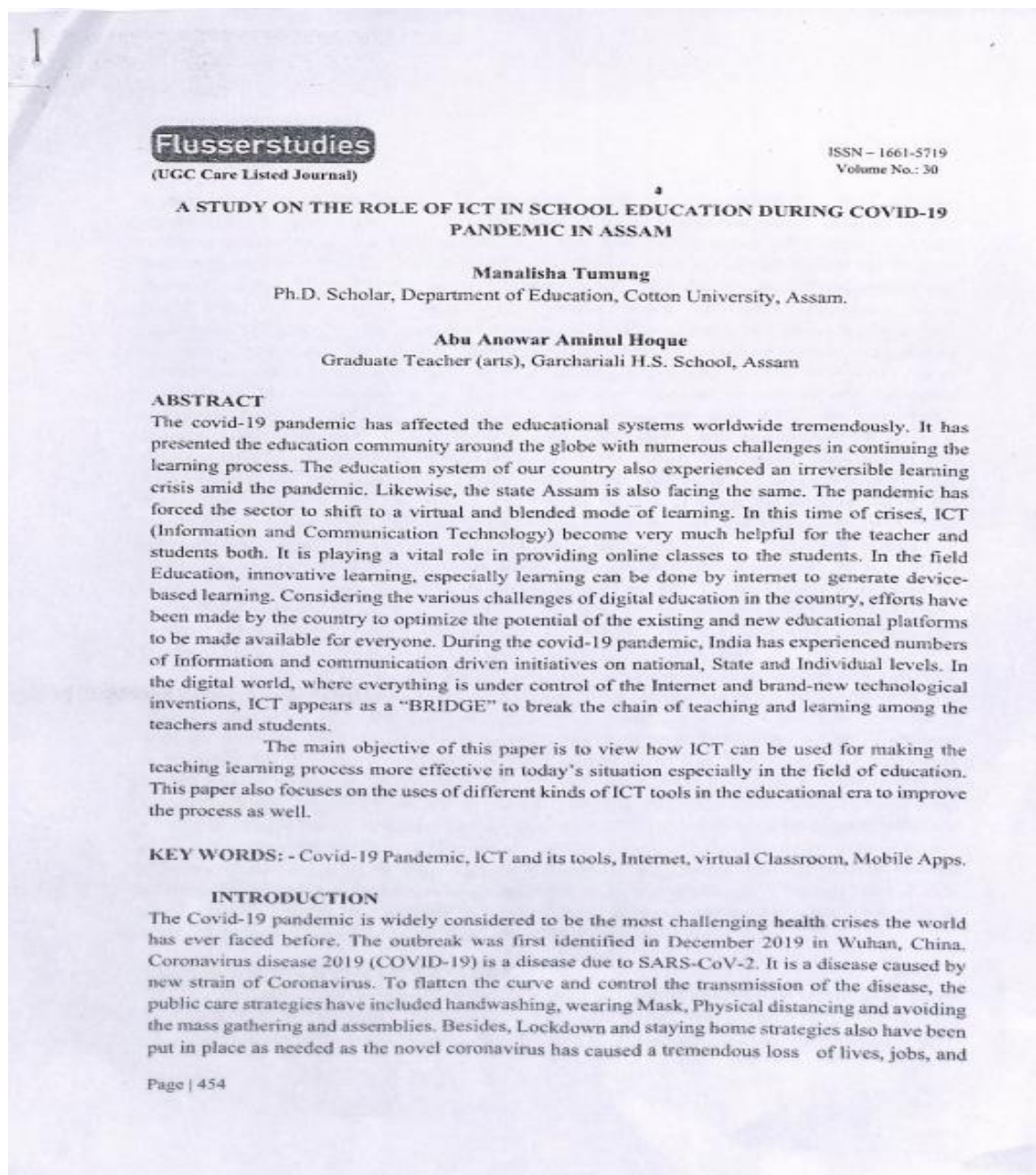
Abstract- The study of Human relationships in the writings of Ruskin Bond does not only develop interesting avenues to understand human nature but also ensures a retrospection and self-evaluation of one's own relationship with the others. At some point or the other we identify with one or the other characters or one or the other situations in his writings. This is the magic of a Bondian text. His approach to human relationships educate every human being to examine his/her own self in order to understand the different levels of human life across the world and in the context of a better human society. No study on human relationships in literary works would be complete without delving deep into the authors' relationship with life in general. Our attitude towards life and our broad relationship with human life affects all other relationships and shapes the way we view and appraise our relationships with others. Bond's relationship with life is full of extreme passion. It is the passion that keeps a relationship throbbing and active. It is the passion or intense drive that sustains a human relationship. In the case of Bond this passion is his vocation of writing. This paper profiles inherent qualities and readers' binding found in the writings of Bond wherein he has portrayed the decency of human relationships in a more unique way as compared to other Indian authors. This paper concludes that the Bondian literature might be partially dominated by hill folk and simple-minded common people, still relationship varieties and colorations portrayed have a universal and generalized appeal. It is a matter of myopic criticism if Bond is segregated as a writer of children's literature or as often demarcated, as an author of the young adults. It would be unfair to restrict the wide range of relationships in his works to merely a child or an adolescent

Key Words: Bondian Literature, Human Relationships, Intense Drive, Myopic Criticism, Passion, Ruskin Bond.

1. INTRODUCTION

Over the period of six decades now, Ruskin Bond has been one of the favorite Indian authors of both young and old readers worldwide. His literature has versatile theme encompassing a varied range of human relationships. The multiplicity of human perception, thoughts and behavior which form, shape, nurture and diversify human relationship, present such a broad and colorful canvas that only the adept expertise of an artist like Bond can mete out true justice to it. Human relationship is in a constant state of flux. It becomes all the more complex and difficult to interpret and present human relationship. The real beauty of his texts sets in a simple way of leading complicated way of life. His texts disclose a complicated and intriguing aspect of human life. His views of human relations are presented through a uniquely lucid, effortlessly

Research Paper- 10: Manalisha Tumung (2021)





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Research Paper- 11: Dr. Mrinal Kumar Mishra (2021)

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Control of Plasma Parameters by Hot Ionizing Electrons Using a Mesh Grid

General and Applied Physics | Published: 09 March 2021

Volume 51, pages 625–634, (2021) [Cite this article](#)

[Mrinal Kr Mishra](#) , [Arindam Phukan](#) & [Monojit Chakraborty](#)

 125 Accesses  2 Citations [Explore all metrics](#) →

Abstract

In this article, we are reporting about the effect of energy and number density of hot primary electrons on plasma parameters in a new experimental configuration of a double plasma device. Here, we have controlled the plasma parameters in two plasma regions by a single discharge circuit. The discharge voltage is applied between hot filaments and a mesh grid. The energy of the hot primary electrons is increased by increasing the discharge voltage, and their number density is increased by increasing the filament heating voltage. It has been observed that the variations in plasma parameters are significant when the number density of primary electrons is increased.



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Research Paper- 12: Dr. Mrinal Kumar Mishra (2021)

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Axial variation of plasma parameters in a multi-dipole discharge plasma in the presence of an ion extraction grid

Original Paper | Published: 13 July 2021

Volume 79, pages 542–545, (2021) [Cite this article](#)

[Mrinal Kr Mishra](#) , [Arindam Phukan](#) & [Monojit Chakraborty](#)

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Abstract

In this experiment, with the help of a Langmuir probe we estimated the plasma parameters at different axial positions inside a multi-dipole magnetic cage. At one end of the multi-dipole magnetic cage, a negatively biased mesh grid is placed. Important plasma parameter such as the electron density, plasma potential and electron temperature are seen to vary significantly towards the grid from the end of the magnetic filter.

Research Paper- 13: Sanjeeb Mallick (2021)

Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 4, 2021, Pages. 1015 - 1019
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Association between Body Mass Index (BMI) and Percent Body Fat (%BF), Estimated by Bioelectric Impedance, Among the Young Adult Males of Lalmati Area of Guwahati, Assam

Sanjeeb Mallick¹

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ABSTRACT

The aim of the study was to determine the association between (BMI) body mass index and (%BF) percent body fat among the 200 young adult males of Lalmati area of Guwahati age ranging from 18 – 32 years during 2020. In this study, young adult males were classified into three groups which is 18 – 22, 23 – 27 and 28 – 32 years. BMI and %BF was calculated according to the classification given WHO Asian cut off and American Council on Exercise. The results show that there is a statistically significant correlation between BMI and %BF at 0.01 level. Weight is also statistically significant with BMI and %BF at 0.05 level.

Keywords:

BMI, %BF, Young-adult, Lalmati

Introduction

A young adult is generally a person in age ranging from the late teenagers or early twenties to their thirties. But opinions and definitions are vary from each other. For different reasons, timeframe on young adulthood cannot be defined exactly because of producing different results according to the different mix of overlapping indices like legal, maturational, occupational, sexual and emotional. Most of the young people are presumed to be healthy but as per WHO (1998) an estimated 2.6 million young aged from 10 to 24 years die each year. Different studies were on youth, young, adolescent, young adult and outcomes are namely obesity, undernutrition, overweight, common mental health problems like stress, depression, suicide, alcohol and tobacco use, substance use, violence and road traffic injury (WHO, 2013).

Although young adults are generally considered as a healthy and fit time of life. Available evidences indicate that young adult are prone to a number of health impacting conditions due to their personal choice, environmental influence and lifestyle changes including communicable and non-communicable disorders and injuries.

The United Nation defines youth as the people aged from 15 to 24 years. The United Nation also acknowledges that this is not unfair to other age groups such as 18 to 30 years which are listed by Member States. There is a useful distinction between adolescents that is 13 to 19 years and young adults within UN itself (those between the ages of 18 and 32 years).

Various studies on Body Mass Index (BMI) and Percent Body Fat (%BF) were done by various scholars from various parts of the world. Ranasinghe et al., (2013) studied Relationship between Body Mass Index (BMI) and body fat percentage, estimated by bioelectric impedance, in a group of Sri Lankan adults: a cross sectional study. Nasr Eldeen et al., (2017) studied Relationship between Body Mass Index (BMI) and Body Fat Percentage in a group of Saudi Arabian Adults. In 2019, Singh et al. studied Relationship between body mass index and percentage of body fat, estimated by bio-electrical impedance among adult females in a rural community of North India: A cross-sectional study.

Body mass index is a value derived from the mass (weight) and height of individual. The body mass index is an attempt to quantify the amount of tissue mass (muscle, fat and bone) in an



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Research Paper- 14: Sanjeeb Mallick (2021)

Ethno-medicinal uses of different ailments among the Koch-Rajbongshis of Agia, Goalpara District, Assam

**Turkish Online Journal of Qualitative Inquiry (TOJQI)
Volume 13, Issue 1, January 2022: 104-113**

Ethno-medicinal uses of different ailments among the Koch-Rajbongshis of Agia, Goalpara District, Assam

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Dr. Mami Ojah²,

Assistant Professor, Department of Anthropology, BBK College, Nagaon, Barpeta

Abstract

Ethno-medicine is the study of traditional treatments, medicines, and cures passed down through generations. Every group has its own unique traditional method of treating various illnesses. The Koch-Rajbongshis have their own traditional disease-curing procedure. One of Assam's caste groups is the Koch-Rajbongshis. Tripura and West Bengal are also home to them. This paper aims to investigate the ethno-medicinal practices among Koch-Rajbongshis of Agia, Goalpara district, Assam. Data was gathered using a variety of methodologies, including observation, case study, and interview.

Key words: Ethno-medicine, Koch-Rajbongshi, Agia, Tradition.

Introduction

Ethno-medicine is a belief system that has an impact on disease and health. Ethno-medicine is concerned with cultural healing system and the cognitive aspects of sickness. Ethno-medicine, which is one of the most important branches of medical anthropology, has long been acknowledged as a vital topic of study. Medical anthropologists are interested in the intricate interface between individual and social perceptions of illness, as well as the physiological manifestations of diseases. Medical anthropology investigates human health problems and healing systems in their broader social and cultural contexts, and conducts both basic and applied research in community public health initiatives to improve therapeutic care, disease prevention, and control. Ethno-medicine principally tries to investigate various aspects of folk disease taxonomy, magico-religious and other remedies, indigenous preventive measures, ethno-medicine men's roles, and the relationship between medical phenomena and socio-cultural environments. Natural ethno-medicine, one of the two divisions of ethno-medicine, reflects one of man's first reactions to his natural environment, and involves the search for solutions for his ills in natural herbs, plants, minerals, and animal compounds. The other is magico-religious ethno-medicine, often known as 'Occult' ethno-medicine, which tries to cure ailments using charms, holy words, and holy activities.

According to a survey of ethno-medicine literature, a significant amount of research has been conducted in many parts of India, including Assam, among numerous communities. In 1925,



Research Paper- 15: Dr. Bhpen Rabha (2022)

Bhupen Rabha and Zoja Karanović

From a Lump of Metal to an Object of Art

Извештај о истраживању

From a Lump of Metal to an Object of Art: Brief Notes from a Trip Around Assam

Bhupen Rabha and Zoja Karanović

The authors spent some time in the villages around Town area committee in Barpeta region in September 2022. The mentioned area, situated in the Indian federal state of Assam, has been known since long time for handcrafting different metal utensils (mostly out of bell metal), which today have an important role in everyday and ritual life. We have observed their work in Sarthebari and talked to people who make them. We obtained important information about the certain position of these objects in creating identity of people in Assam.

Keywords: India, Assam, fieldwork, tradition, identity, bell metal utensils, handmade.

The authors of this work spent some time in the villages around Town area committee in Barpeta region¹ in September 2022. The mentioned area, situated in the Indian federal state of Assam², has been known since long time for making different metal utensils (mostly out of bell metal³). We have observed their work in Sarthebari⁴ and talked to people who make them (Figure 1). Bell metal objects are fabricated manually and made by using a simple technique which has been passed down from generation to generation since ancient times. And various of these artifacts, as they said, are items at a price, even though the cheaper machine production has been developed for a long time. Although handmade objects are significantly more expensive than industrial ones, every family wants to have such items in their posses-

¹ Barpeta is town in district Barpeta (Assam, India).

² Assam is state in Northeastern India, south of the eastern Himalayas along the Brahmaputra and Barak River valleys.

³ Bell metal or bell bronze is an alloy used for making bells and related instruments, such as cymbals, as much as the other objects. It is bronze usually a 4:1 ratio of copper to tin (typically, 78% copper, 22% tin by mass). Ron 1986: 40–50; s.a. *How Bells Are Made*.

⁴ Sarthebari is one of the most prominent places for making bell-metal items. There are 280 bell metal units in Sarthebari providing employment for 5000 people (Kalita 2007).

Research Paper- 16: Dr. Gopal Kumar Sarma (2022)

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**JOURNAL OF EMERGING TECHNOLOGIES AND
INNOVATIVE RESEARCH (JETIR)**

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Profitability of Irrigated Agriculture: A Case Study of Paddy Cultivation in Barpeta District, Assam

Dr. Gopal Kumar Sarma

Assistant Professor in Economics
B.B.K. College, Nagaon, Barpeta, Assam

Abstract: This study investigates the profitability of irrigated agriculture as compared to rain-fed agriculture by considering a development block of Assam as case study. The study reveals that there is urgent need of creation irrigation potentiality in the state as well as its utilization. The study shows that the use of irrigation in the agriculture increases production but it is less profitable as compared to non-irrigated agriculture. However, use of irrigation has positive impact on employability and production.

Index Terms – Irrigation, Paddy, Kharif, Rabi, RIPI

1. INTRODUCTION

Among the others irrigation is considered as an important input to boost agricultural productivity. Increased agricultural productivity not only provides better income but also it is considered as an important component of food security. According to Global Hunger Index 2021, with a score of 27.5, the level of hunger in India is serious. Necessity of irrigation arises due to increase in population, which results in falling per capita availability of land. Significant association has been also found between development of irrigation and agriculture (Ghosh et al., 2012).



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Research Paper- 17: Harun Al Rashid (2022)

PHYSICAL REVIEW C

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Investigation of isotopic dependence on the O + Ni fusion cross section near barrier energies

Nabendu Kumar Deb, K. Kalita, Harun Al Rashid, Amar Das, S. Nath, J. Gehlot, N. Madhavan, Rohan Biswas, Rudra N. Sahoo, Pankaj K. Giri, A. Parihari, Niraj K. Rai, Saumyajit Biswas, Amritraj Mahato, and B. J. Roy
Phys. Rev. C **105**, 054608 – Published 19 May 2022

Article

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ABSTRACT

Fusion excitation functions have been measured for $^{16}\text{O} + ^{61}\text{Ni}$ and $^{18}\text{O} + ^{61,62}\text{Ni}$ systems around the Coulomb barrier ($\approx 0.7V_B - 1.3V_B$) using the recoil mass spectrometer, heavy ion reaction analyzer. The ground state Q value for two neutron stripping is positive for both systems with ^{18}O as the projectile. Strong enhancement of the experimental fusion cross sections were observed below the barrier for all the systems compared to that of the predictions of the one-dimensional barrier penetration model. To understand such enhancement, a coupled-channels formalism has been used. A comparative study of these systems indicated that the coupling of two neutron transfer channels with the collective excitations could play the role behind the sub-barrier fusion enhancement for ^{18}O induced reactions. However, the sub-barrier enhancement for $^{16}\text{O} + ^{61}\text{Ni}$ is found to be due to the coupling of quadrupole vibrations of both the interacting nuclei. Also after comparing these systems with other systems of different Ni isotopes, we have found that the signature of the role of coupling to neutron transfer channels due to ground state positive Q value for neutron transfer is ambiguous.

Research Paper- 18: Kabyashree Phukan (2022)

ACS Omega > Vol 7/Issue 9 > Article

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ARTICLE | February 22, 2022

Insights into Anti-Inflammatory Activity and Internalization Pathway of Onion Peel-Derived Gold Nano Bioconjugates in RAW 264.7 Macrophages

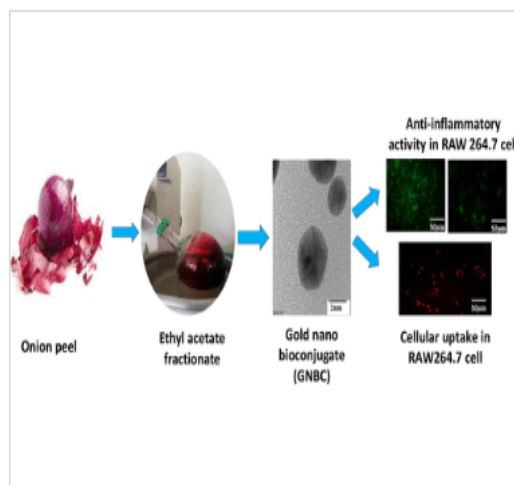
Kabyashree Phukan, Rajlakshmi Devi*, and Devasish Chowdhury*

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Supporting Information (1)

Abstract

Green synthesis of nanoparticles plays an important role in their efficient therapeutic effects in various biomedical applications. Here, we prepared gold nano bioconjugates (GNBCs) from the ethyl acetate fraction of onion peels and investigated their anti-inflammatory activity in lipopolysaccharide-stimulated RAW 264.7 macrophages. The GNBCs were characterized by UV-visible spectroscopy, dynamic light scattering, and transmission electron microscopy. Comparative studies have been conducted among GNBCs, fractionate alone [onion peel drug (OPD)], and the standard drug dexamethasone in various anti-inflammatory assays. It was observed that GNBCs showed comparatively good therapeutic efficacy than the fractionate alone. At the lowest 10 $\mu\text{g/mL}$ concentration, the GNBC and OPD exhibited 70.86 and 91.98% of reactive oxygen species production, 10.88 and 20.97 $\text{ng}/\mu\text{L}$ of nitrite production, 337 and 378 pg/mL of $\text{TNF-}\alpha$ production, 27.1 and 30.64 pg/mL of IL-6 production, respectively, by maintaining a satisfactory cell viability. Moreover, to understand the mechanistic pathway of GNBCs in their entry into the macrophages, their localization, and duration, uptake studies have been performed where a caveolar-mediated endocytosis pathway is found to be prominent. Hence, this study will lead to the development of cheap, green synthesis of nano bioconjugates and their role in inflammation.





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Research Paper- 19: Manas Pratim Das (2022)

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Bianchi Type V Tsallis Holographic Dark Energy Model with Hybrid Expansion Law

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DOI: <https://doi.org/10.26565/2312-4334-2022-3-13>

Keywords: Tsallis Holographic Dark Energy, Bianchi Type V, Hybrid Expansion Law, Accelerated expansion

Abstract

A number of recent cosmological observations have provided increasing evidence that currently the universe is undergoing a phase of accelerated expansion, the root cause of which is supposed to be due to an exotic component of the universe with large negative pressure, dubbed dark energy. Out of the various candidates of dark energy proposed in the literature, the holographic dark energy emerged from the Holographic



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2022-03-07

Research Paper- 20: Manas Pratim Das (2022)**THEORETICAL PHYSICS**

Original article

DOI: <https://doi.org/10.18721/JPM.15208>**RECONSTRUCTING QUINTESSENCE SCALAR FIELD
MODEL FROM NEW HOLOGRAPHIC DARK ENERGY
IN BIANCHI TYPE I UNIVERSE***C. R. Mahanta, M. P. Das*

Gauhati University, India

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Abstract. In this paper, we investigate the cosmic evolution of a spatially homogeneous and anisotropic Bianchi type I universe filled with new holographic dark energy (NHDE) and cold dark matter (CDM) within the framework of General Relativity by considering both the components of the universe to be interacting with each other. To obtain the exact solutions of Einstein's field equations, we consider two expansion laws: an exponential expansion and a power-law volumetric expansion. The evolutions of some parameters of cosmological importance are studied for both the models corresponding to the exponential expansion and the power-law volumetric expansion. We observe that in both the models the anisotropy parameter decreases as time evolves and tends to zero at late times. The model corresponding to exponential expansion behaves like CDM model and the model corresponding to power-law volumetric expansion behaves like quintessence holographic dark energy model at late time. We also compare the equation of state (EoS) and energy density of our interacting NHDE model with that of quintessence scalar field and establish a correspondence between them. The quintessence potential is reconstructed which depicts the observed accelerated expansion of the universe.

Keywords: Bianchi type I universe, new holographic dark energy, quintessence, EoS parameter

Citation: Mahanta C. R., Das M. P. Reconstructing quintessence scalar field model from new holographic dark energy in Bianchi type I universe, St. Petersburg State Polytechnical University Journal. Physics and Mathematics. 15 (2) (2022) 79–92. DOI: <https://doi.org/10.18721/JPM.15208>

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Research Paper- 21: Mrinal Kumar Mishra (2022)

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Effect of Movable Anode on Plasma Parameters in Multi-Dipole Discharge

PLASMA DIAGNOSTICS | Published: 31 January 2022

Volume 48, pages 314–317, (2022) [Cite this article](#)

[M. Kr. Mishra](#) , [A. Phukan](#) & [M. Chakraborty](#)

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Abstract

We are reporting about the effect of a movable anode on plasma parameters in a multi-dipole magnetic cage. We have used electron-emitting filaments as the cathode and a movable metal plate as the anode. It is seen that plasma parameters change depending on the position of the plate.



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Research Paper- 22: Illora Narzary (2023)



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Acknowledging the use of botanicals to treat diabetic foot ulcer during the 21st century: A systematic review

Illora Narzary, Amit Swarnakar, Mrinal Kalita, Sushil Kumar Middha, Talambedu Usha, Jangila Basumatary, Arvind Kumar Goyal

Amit Swarnakar

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Research Paper- 23: Dr. Kishor Kumar Deka (2023)



Journal of the Asiatic Society of Mumbai
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UGC Care Group 1 Journal

THE DICHOTOMY OF MARRIAGE IN *DO THE NEEDFUL*: A RADIO PLAY BY MAHESH DATTANI

Dr. Kishor Kumar Deka

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Abstract: Homosexuality, gay/lesbian relationships and same-sex marriage are a few bizarre issues that still raise a lot of eyebrows in our society; these people remain marginalized and uprooted in our socio-cultural setup. *Do the Needful* (1997), Mahesh Dattani's debut radio drama, focuses clearly on several common spaces in Indian society that predominately favours the patriarchal family system and inhibits any change that contradicts the established and existing structure of it. Dattani uses the 'thought' technique to bring out his characters' subconscious thoughts and conflict with socially imposed hegemony. They are not what society perceives them to be; they are not what they aspire to be; they are not what they are; they are residents of a different planet - a third space. Not only the two main characters, Alpesh and Lata, but all of the characters look for comfort in a third area. In the psycho-cultural frame, their 'otherness' leads them to a common platform - *Teri bhi chup, meri bhi chup* (Your silence and mine as well) – it was 'doing the needful'.

Key Words: *Homosexuality, Gay, Lesbian, Marriage, Society & Indian.*

Introduction:

Mahesh Dattani was commissioned by the BBC to create his debut radio play in 1996, and the outcome was the somewhat odd 'romantic comedy' *Do the Needful*. The piece was first broadcast on BBC Radio 4 on August 14, 1997, directed by Salley Avens. In *Do the Needful*, Dattani uses the all-too-familiar setting of an upper-middle-class family to spring his usual surprises in the play's narrative pattern. Given that this was his first BBC-commissioned radio drama, and that the genre he chose was a romantic comedy, he manages to take on a traditional form with ease, firmly entrenched in the mechanics of two ethnically varied upper middle class Indian families. The hero and heroine marry, like in all good love stories, but the road to marital bliss is full of unforeseen twists and turns. Though the drama is set in India and revolves around arranged weddings, its themes are universal. It was also highly appreciated abroad, with British audiences quickly identifying with its broader and global themes. Although, this is a first radio play, it is admirably and remarkably successful. Some critics admire it as it culminates in confessions of homosexuality by Alpesh whose hope for a same reason. Some critics say that, Dattani's cry of dichotomy and outcasts are agents of change.



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Research Paper- 24: Manas Pratim Das (2023)

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Bianchi Type V Universe with Time Varying Cosmological Constant and Quadratic Equation of State in $f(R,T)$ Theory of Gravity

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DOI: <https://doi.org/10.26565/2312-4334-2023-1-04>

Keywords: Bianchi type V universe, $f(R,T)$ theory of gravity, Equation of state, Λ CDM model

Abstract

In recent years, modified theories of gravity have been extensively studied because of the discovery and confirmation of the current phase of accelerated expansion of the universe. The $f(R,T)$ theory of gravity is one such theory, proposed by Harko *et al.* in 2011, in which R is the Ricci scalar and T is the trace of the stress-energy tensor. In this paper, we study Bianchi type V universe in $f(R,T)$ theory of gravity with time varying cosmological constant and a quadratic equation of state $p=\alpha\phi^2-\phi$ where $\alpha\neq 0$ is a



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Research Paper- 25: Manas Pratim Das (2023)

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Bianchi Type V Universe with Time Varying Cosmological Constant and Quadratic Equation of State in $f(R,T)$ Theory of Gravity

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DOI: <https://doi.org/10.26565/2312-4334-2023-1-04>

Keywords: Bianchi type V universe, $f(R,T)$ theory of gravity, Equation of state, Λ CDM model

Abstract

In recent years, modified theories of gravity have been extensively studied because of the discovery and confirmation of the current phase of accelerated expansion of the universe. The $f(R,T)$ theory of gravity is one such theory, proposed by Harko *et al.* in 2011, in which R is the Ricci scalar and T is the trace of the stress-energy tensor. In this paper, we study Bianchi type V universe in $f(R,T)$ theory of gravity with time varying cosmological constant and a quadratic equation of state $p = a\sigma^2 - \rho$, where $a \neq 0$ is a



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Research Paper- 26: Manas Pratim Das (2023)



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LRS Bianchi Type-II Cosmological Model with New Holographic Dark Energy in General Relativity with Quintessence

Chandra Rekha Mahanta and Manash Pratim Das

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PDF



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13/09/2021*

Accepted on:

Abstract: In this paper, we investigate the LRS Bianchi Type-II universe filled with pressureless cold dark matter and non-interacting new holographic dark energy in the framework of general relativity. To obtain the deterministic solution of Einstein's field equations, we assume the scalar of expansion to be proportional to the eigenvalue of the shear tensor. The expressions for some parameters of cosmological importance are obtained and physical and geometrical properties of the model are discussed. The correspondence between the new holographic dark energy and quintessence scalar field model is also established by comparing their



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Research Paper- 27: Ratul Kumar Sarma (2023)

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Transfer of Drift Wave Turbulence Energy to Langmuir Waves in Inhomogeneous Magnetospheric Plasma

General and Applied Physics | Published: 22 September 2023

Volume 53, article number 150, (2023) [Cite this article](#)

[R. K. Sarma](#)  & [P. N. Deka](#)

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Abstract

Drift waves exist universally in inhomogeneous plasmas and play a major role in the cross-field transport of particles, energy, and momentum in space and laboratory plasmas. In this article, we present our investigation on the amplification of the Langmuir waves in the presence of the drift wave turbulent field through nonlinear wave particle interaction process called the plasma-maser effect. The drift wave turbulent field interacts with plasma particles as it is in the resonant mode and its energy is transferred to accelerate the plasma particles. The accelerated plasma particles transfer their energy to Langmuir waves through a modulated field. We have obtained Fourier components of drift wave turbulent field and the non-linear Langmuir waves using linearized Vlasov-Poisson system of equations. From the non-linear dispersion relation of Langmuir waves, we have calculated growth rates of the Langmuir waves using observational data set of the topside polar



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Research Paper- 28: Ratul Kumar Sarma (2023)



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Amplification of Electrostatic Wave at the Cost of Kinetic Alfvén Wave Turbulence Energy in Auroral Zone

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Received 28 November 2022, accepted in final revised form 14 June 2023

Abstract

The low-frequency electromagnetic kinetic Alfvén (KAW) wave is among the most significant waves in the Earth's magnetospheric plasma environment. This study investigates the generation process of high-frequency electrostatic and non-resonant upper-hybrid (UH) waves at the expense of kinetic Alfvén waves in the Earth's auroral zone. The plasma particles that sustain long-term phase alignment with the kinetic Alfvén wave turbulent field are accelerated. The accelerated plasma particles may transfer energy and momentum to the unstable high-frequency wave via a modulation field. Considering a Maxwell-Boltzmann distribution function and using the Vlasov-Poisson system of equations, fluctuating parts of distribution functions resulting from the resonant KAW, modulated wave, and nonlinear upper-hybrid wave are estimated. Data available from various space probes in Earth's magnetosphere are used to calculate the growth rates of the upper-hybrid wave from nonlinear dispersion relations. The calculations demonstrate that the amplification of upper-hybrid wave is possible at the expense of kinetic Alfvén wave turbulent energy.

Keywords: Magnetospheric plasma; Kinetic Alfvén wave; Upper-hybrid wave; Resonant wave, Growth rate.

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doi: <http://doi.org/10.3329/jsr.v15i3.63005> J. Sci. Res. **15** (3), 583-593 (2023)


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