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WHO SHOULD PARTICIPATE

Faculties from academic institutions, research scholars, PG scholars, researchers working in research laboratories, technocrats from industries will be benefitted.

PARTICIPATION BENEFITS

Apart from learning about the different aspects of mechanical engineering, this conference will provide a common platform for knowledge sharing, networking, collaborations and opportunity to interact with the eminent academicians, technocrats, scientists and engineers to their area of expertise to expand your horizon in the recent developments pertaining to mechanical sciences

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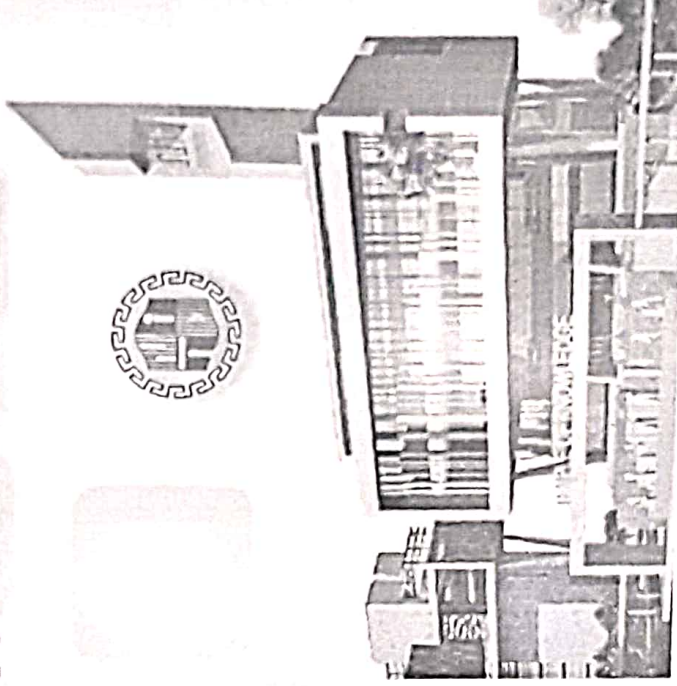
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Ist NATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING

16TH MARCH 2019

(NCAME-2019)



Organised by

Department of Mechanical Engineering
National Institute of Technology Delhi
(An autonomous Institute under the aegis
of Ministry of HRD, Government of India)
Sector A-7, Institutional Area, Narela
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ABOUT NIT DELHI



राष्ट्रीय प्रौद्योगिकी संस्थान दिल्ली
National Institute of Technology Delhi
(An Autonomous Institute under the aegis of Ministry of HRD, Govt. of India)

National Institute of Technology Delhi (NITD) is one of the thirty NIT (s) established in the year 2010 by an act of parliament and has been declared as an Institute of National importance.

NIT Delhi is an autonomous Institute which functions under the aegis of Ministry of Human Resource Development, Government of India. It aims to provide instructions and research facilities in various disciplines of Engineering, Science and Technology, Management, Social Sciences and Humanities for advance learning and dissemination of knowledge.

NIT Delhi has started its academic session in 2010 with three undergraduate B. Tech. programmes in Computer Science and Engineering, Electronics and Communication Engineering and Electrical and Electronics Engineering. From academic year 2013-14 the intake in each B. Tech. programme has been increased to strength of 60 students. M. Tech. programme in the discipline of Electronics and Communication Engineering was introduced from the academic year 2013-14 followed by M. Tech. programme which has started from January 2014. M. Tech. Programme in Computer Science and Engineering (Analytics) has been started in Academic year 2014-15 followed by M. Tech Programme in Mechanical Engineering with specialisation in CAD/CAM from Academic year 2016-17.

NCAME 2019

The NCAME 2019 invites high quality research papers in the areas of Mechanical Engineering. The primary goal of the conference is to change the ideas in the existing areas, encourage academic and industry interaction to promote collaborative research activities involving scientists, engineers, professionals, researchers and students.

High quality research papers are invited on the following areas, but not limited to :

- CAD/CAM
- Additive Manufacturing
- Materials & Composites
- CFD
- Modeling & Simulation
- Robotics
- Sensors & Transducers
- Measurement & Metrology
- Optimisation Techniques

Peer reviewing will be done by eminent experts in respective research areas. At least one author should register for each accepted paper and it has to be presented in the conference. Only presented papers in the conference will be published in the Scopus indexed / international journal.

Instructions regarding submission of manuscript will be updated shortly over the institute website. Papers can be submitted via email at ncame2019@nitdelhi.ac.in

IMPORTANT DATES:

Paper Submission	05 th December 2018
Acceptance Notification	25 th December 2018
Final Camera Ready Paper Submission	10 th January 2019
Registration Deadline	20 th January 2019

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Residential Demand Side Management and Optimization Models

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Abstract

The major demand of the electricity generation has consumed by residential sector which increased exponentially in 2018. The demand has been unrealistic and uncontrollable in the case of power grid. Demand Side Management (DSM) is one of the important aspects in smart grid that motivates the consumer to make conversant decision related to energy consumption and hence take care of the increasing grid load. The main objective of DSM is maximize the system load and the total peak demand or the load factor and most importantly to minimize customer electricity bill. Owing to the importance of DSM, the present work reviews on several optimization models that have been used to aid DSM in achieving its desired objectives. The future work in the aforementioned domain has been highlighted towards the end of the paper. Therefore, the authors of the work hope that the present review work will help those involved directly or indirectly in the domain of DSM.

Manuscript ID: 150

Performance Evaluation of Diesel Engine using Novel Variable Compression Ratio Mechanism

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Abstract

Increasingly stringent emission and fuel economy standards brings opportunities and research in automobile engine technology development to make it more efficient and less polluting. There are various performance improvement strategies adopted by different researchers in order to get maximum power from the minimum quantity of fuel alongside substantial reduction in exhaust gas emission. The techniques such as CRDI (Common Rail Direct Injection), VVT (Variable valve timing) and such more are commercially viable and successfully incorporated in vehicles. Along the similar track, this paper highlights the importance of variable compression ratio diesel engine,

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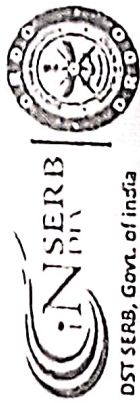
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Abstract



References



Citations



Supplementary Data



Suggestions

Increasingly stringent emission and fuel economy standards brings opportunities and research in automobile engine technology development to make it more efficient and less polluting. There are various performance improvement strategies adopted by different researchers in order to get maximum power from the minimum quantity of fuel alongside substantial reduction in exhaust gas emission. The techniques such as CRDI (Common Rail Direct Injection), VVT (Variable valve timing) and such more are commercially viable and successfully incorporated in vehicles. Along the similar track, this paper highlights the importance of variable compression ratio diesel engine, method of achieving the variable compression ratio (VCR) as per load and speed conditions. Variable compression ratio (VCR) technology is one of the method for improving the automobile engine performance, efficiency, fuel economy with reduced emission for range of fuels. The basis of the VCR engine is to operate at different compression ratio, by altering the combustion chamber volume, as per need of most suitable operating conditions. Apart from this, the fuel injection location needs to be varied as per load and speed conditions. The synchronization of both VCR and variable fuel injector location (VFIL) becomes important. Knowing this fact, the study for the diesel Comet engine (3.7 kW@2100 RPM) is undertaken for variable clearance volume accompanied with VIPL. The work consists of design and development of mechanism consisting of auxiliary cylinder and auxiliary piston which will operate in and out of combustion chamber as per load and speed conditions. The detailed drawings and complete experimentation will be carried out to judge the improvement of performance of diesel engine with modification of variable clearance volume concept. The performance parameters consist of brake power, brake thermal efficiency and brake specific fuel consumption under various load conditions.

Keywords: Auxiliary Cylinder and Auxiliary Piston; Compression Ignition Engine; Variable Compression Ratio; Variable Fuel Injector Location

Document Type: Research Article

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