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AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY



VINAYAKA MISSION'S
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DEPARTMENT OF MECHANICAL ENGINEERING

ENFUSE

Report – Webinar on “Homogeneous Charge Compression Ignition Engine - A Review”

3rd NOV 2020

Resource Person : Dr.S.NATARAJAN

Participants : 50 Members

Assistant Professor,
Department Consultancy, Ignition & ,SVCE-WTI Test Rig
Coordinator, Department of Mechanical Engineering,
Sri Venkateswara College of Engineering, Irungattukottai Post,
Sriperumbudur-602117.

The Department of Mechanical Engineering in association with **ENFUSE and IIC** organised a Webinar on the topic “Homogeneous Charge Compression Ignition Engine - A Review” on 3rd NOV 2020

The topics covered in seminar are:

1. Homogeneous Charge Compression Ignition Engine - overview
2. Advantages of HCCI engine over CI and SI Engine
3. Effect of usage of alternate fuel in HCCI engines
4. Preheating techniques of alternate fuels
5. emissions , power, torque , peak pressure and heat release rate, fuel mixture
6. Temperature and compression ratio
7. Optimization techniques
8. Advantages and disadvantages of HCCI engine

Seminar Outcomes:

- Students gained knowledge about on going research in alternate fuel and HCCI engine
- Students gained knowledge about the principles of operation of HCCI engine
- Students learned about the opportunities in the field of and alternate fuels & IC engines
- Students acquired the new trends in automobile sectors and importance of interdisciplinary courses.

Students suggestions

- Webinar is useful to update the application oriented knowledge in automobiles and the emerging areas of the research in search of engine which will run without polluting the environment.

This Webinar was coordinated by Mr.A.Elanthiraiyan, Assistant Professor (Gr-II) and Prof. L.Prabhu HOD, Department of Mechanical Engineering, AVIT.



Zoom Webinar

A Elanthiraiyan | Thiagarajan C

Recording...

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- A third observation is the fact that the combination of advanced low temperature reactions and increased energy liberation in the low temperature reactions results in significant advances and higher heat release rates in the main reaction.
- It should be noted that fuel composition mainly affects the amount of low temperature reaction that occurs in HCCI engines.
- Fuels like gasoline exhibit little or no low temperature reaction and initiation temperatures on the order of 950K in HCCI engines.
- Fuels like diesel fuel exhibit significant low temperature reaction and corresponding initiation temperatures in the range of 750K in HCCI engines.

28

Participants (42)

Panelists (10) Attendees (32)

Find a participant

- AE A Elanthiraiyan (Co-host, me)
- Samuel (Host)
- DS Dr.S.NATARAJAN S (Co-host)
- Antony Casmir (Co-host)
- A.SENTHILKUMAR Alagarsamy
- Dr M Prabhahar .
- K.Vijayakumar
- KS KALYANAKUMAR S
- S Surendrababu.k
- TC Thiagarajan C

Invite Mute All

Zoom Webinar

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Results and Discussion

Multi Objective Optimisation Using Grey Relational Analysis

Response Graph Analysis.

Input parameters	Optimal Levels	Optimal Parameters
A. Premixed ratio	A2	20% Premixed ratio
B. Air preheating temperature	B2	120°C Air preheating temperature
C. EGR	C2	20% EGR
D. Load	D3	75% Load

Optimum input parameters condition

170

Participants (46)

Panelists (11) Attendees (35)

Find a participant

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