



Department of Electrical & Electronics Engineering

Webinar Report

on

“Application of Artificial Intelligence (AI) in Induction Motor (IM) Drive”

Organised by

Department of Electrical and Electronics Engineering

17 -07-2021

Organized in association with: ISTE Students Chapter

Submitted by: Dr Pratap Ranjan Mohanty, Sr. Assistant Professor., Dept. of EEE

Resource Person: Dr. Rabi Narayan Mishra, Assoc. Prof., SIT, Bhubaneswar

Attendance: 148 participants from different institutions

The session was started at 2 PM. The webinar was initiated by Dr. A V Pavan Kumar, HOD-EEE Department. The resource person **Dr Rabi Narayan Mishra**, was introduced by Dr. Pratap Ranjan Mohanty, Sr. Asst. Prof., Dept. of EEE. The resource expert addressed the significant AI application for Induction Motor Drives.

At the beginning of the presentation, the eminent resource person rationalized everyone that mostly induction motors are used due to its effortlessness, less cost, reliability, suitability to work in an unpredictable environment, and virtually maintenance free. The nonlinear control is involving a progressively essential part in control system designing and has turned into a vital portion of the controller designing. But it involves difficult control methodology because it has three inalienable disadvantages as takes after. (a) It has nonlinear dynamic with higher order equation, (b) No direct measurement of flux and rotor current, (c) Parameters Variation like rotor resistance and inductance. It is pointed during the presentation.

The prominent speaker focused on the performance analysis of various aspects of different controller applied in induction motor drive. DTC has gained a lot of popularity in the recent era because of its fast torque control and excellent performance characteristics. Further, using intelligent control techniques like neural network, model predictive control; it is possible to minimize the ripple to a great extent. It is well explained during the presentation.

The speaker explained way how space vectors are selected and arranged in the sequence which has a great influence on the output voltage harmonic profile and also on the inverter switching losses. In conclusion note, the distinguished speaker highlighted regarding the improved performance even with model and parameter uncertainties, and load perturbations. The robustness and response of the presented system is explained by the speaker at the end.

Feedback: The participants were moreover passionate to know performance analysis of various aspects of different controller applied in induction motor drives. The participants were involved to understand the superiorities of AI application for IM drives. The session was concluded followed by a vote of thanks, which was given by Dr. Pratap Ranjan Mohanty, Sr. Asst. Prof.

Participation Certificate: Participation E-Certificates are distributed to all the active participants through their email.



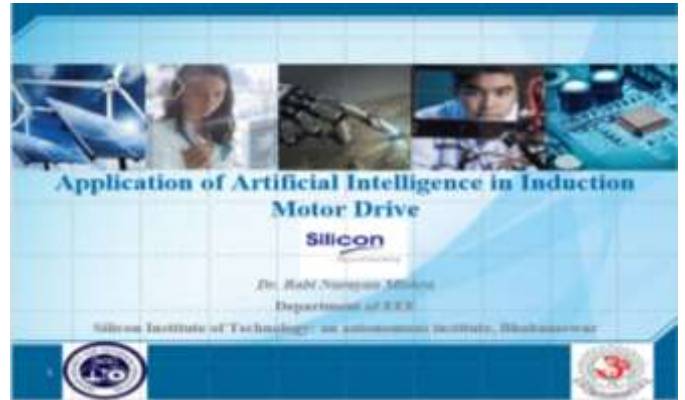
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Photos:



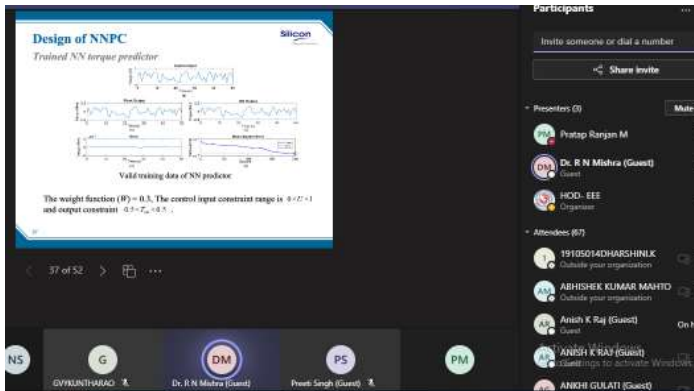
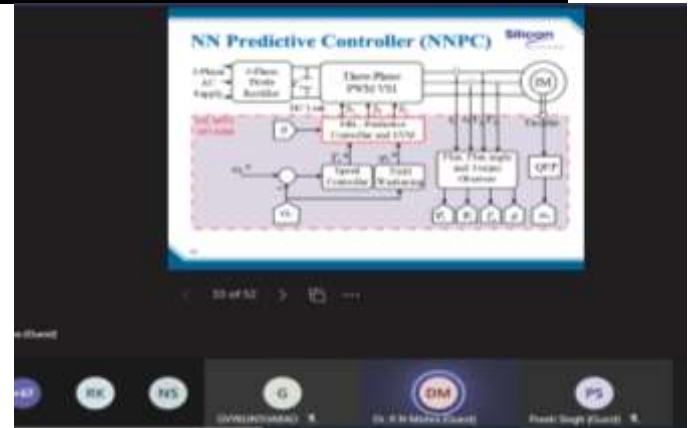
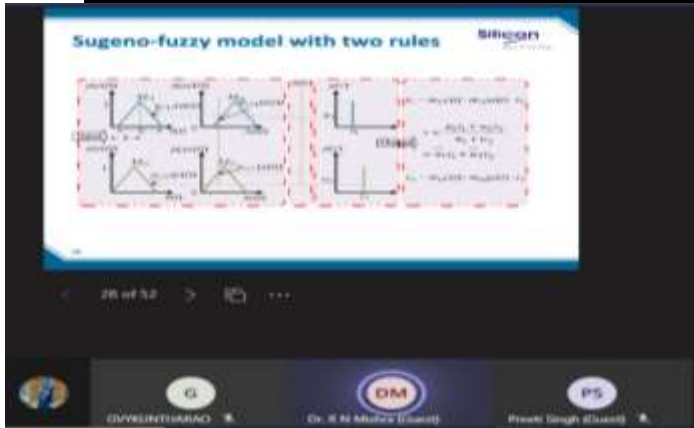


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Sample e-certificate



Feedback Analysis

Link for feedback:

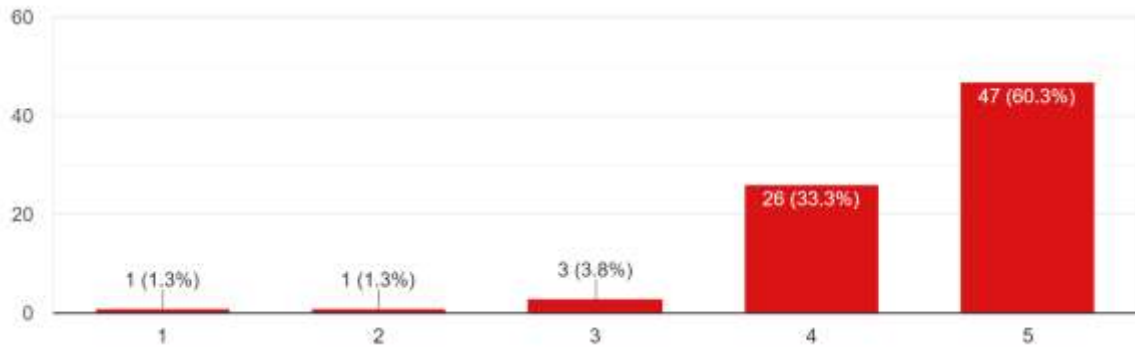
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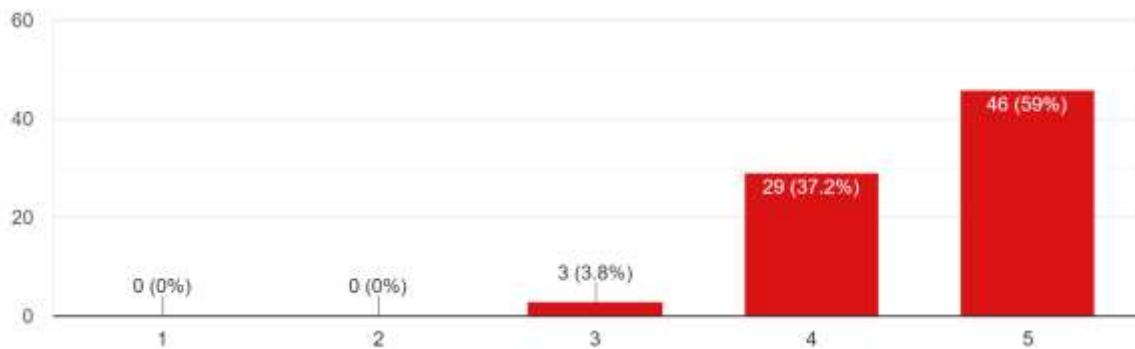
1. The interactive session was scheduled at a suitable time

78 responses



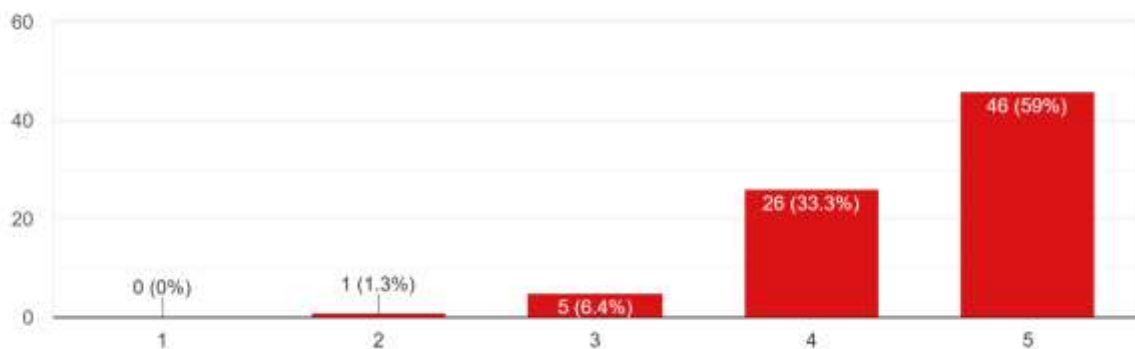
2. The interaction was useful and resource person explanation.

78 responses



3. The information in the interaction was presented in a clear and organized manner.

78 responses

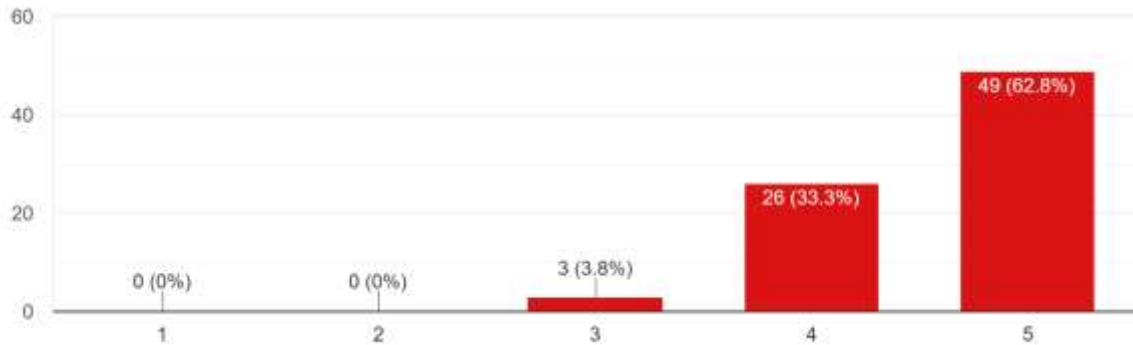




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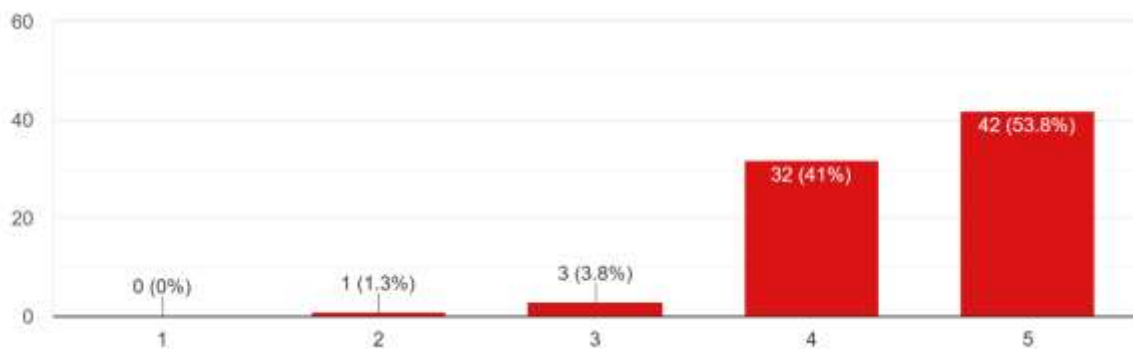
4. The presenter responded to questions in an informative, appropriate and satisfactory manner.

78 responses



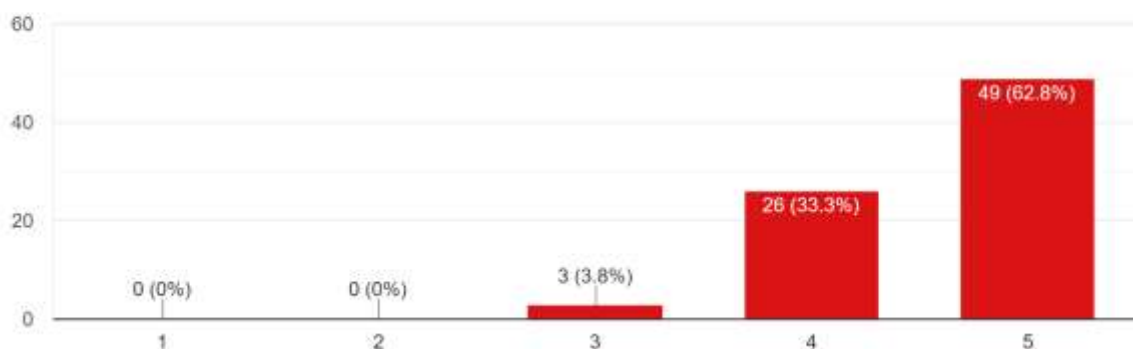
5. your impression of facilities provided by the institute for interaction.

78 responses



6. Overall, the session was informative and valuable.

78 responses





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7. In what ways could this interaction have been improved to better suit your needs? 46 responses

Good
NA
Yes
Many ways
I think in google meet.
For research
It gives me more knowledge about induction motor use in AI
Get to know about AI .
Recent application
It's good
We could add some practical knowledge and animated video of applications for references
To integrate my device with AI makes my work easy
Nice one
Thank you for sharing the valuable information
No comment
GOOD
Helpful in understanding the concept in a better way
nothing...very good
practical sessions can be conducted
Good session and the interactive via teams meet is very easy and comfortable to share our ideas
Net signal
Overall it is good and nice presentation.
one can understand and apply it to real time application
Very informative
No it's good
No technical and Network issues
Controller are nicely explained
I got to know about the application IM ..where we use IM
It is helpful
IN CONTROLLERS WISE GOT INFORMATION
noon
nice
If this is zoom platform
Through animated videos and live demonstration



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More information required on advanced intelligence techniques.
It was nice session it reached my needs so I think no improvement is needed
Very impressive session and do more webinars on fuzzy logic.
No
Excellent session
In knowing AI applications
It's Good

8. Any Other Comments 43 responses

No
Good
NA
Nil
Informative session
NO.
It was very useful to me to know the things
It is a nice session
All good
Well
Nice presentation
Nice session
Overall the webinar was good
GOOD
..
no
Nice session
Very useful and wonderful session
It was well platform to know new things
It is good and we gain valuable information.
Very organized
If possible send some fuzzy logic control understanding links or material to my mail id sir sonuvelyku@gmail.com THANK YOU SO MUCH SIR
OVER ALL GOOD
Overall it is good
noon
nil
Nope



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Nothing
Good and informative session

Signature of the Coordinator

Signature of HoD