SARVAJANIK UNIVERSITY

INCLUSIVE | INTEGRATED | INNOVATIVE

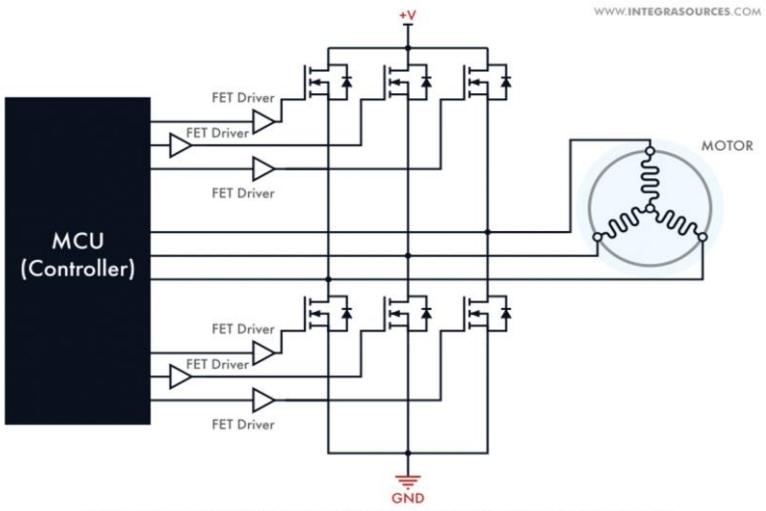
Instrumentation & Control Department
Sarvajanik College of Engineering & Technology, Surat

A Report on R&D Talk

On

BRUSHLESS DC MOTOR CONTROL

October 18, 2024



Three-phase BLDC motor controller circuit with Hall-effect sensors

Event Detail
Title: Brushless DC Motor Control
Category: Expert lecture/R&D talk

Date:18th October,2024
Time:2:00 to 4:30 pm
Venue: Advance Control Lab, IC dept.

Experts :

1. Dr. M.A. MULLA

(Professor, Electrical Dept.,SVNIT, Surat)

2. Er. Abid Mansuri

(Sr. Engineer- R&D and Training, NiTech, Surat)

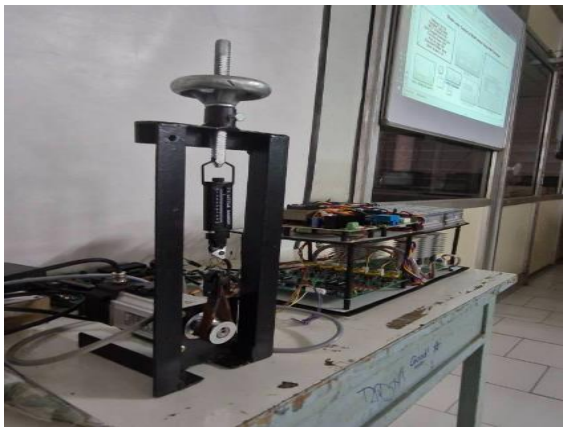
Participants: about 20 students of B Tech IC final and pre-final year.

The objective of the lecture was to give students know-how of basics of brush-less dc (BLDC) motor and control strategies. Prof. Mulla covered the difference between simple dc motor and BLDC motor with animation. BLDC motors are also known as Electronically-commutated motor. He started with BLDC motors application in domestic fan, electric vehicles and consumer electronics etc due to low maintenance, and low noise and high efficiency. He covered the BLDC motor control using inverter and controller with PWM strategy in detail.

Mr. Abid Mansuri explained the implementation for BLDC motor driver using inverter and PI control strategy implemented in STM32 controller. He covered the framework for writing control program in embedded controller. Instead of writing c code for embedded controller, he simulated and implemented the code in Waijung-SIMULINK which is an Internet of Things (IoT) Development Platform for ESP32 and STM32 target. He demonstrated the BLDC motor speed performance being constant with load/torque and without torque. The demonstration was very interactive and interesting.

Glimpses of the expert lecture






Students' view and opinion about the expert session.

Timestamp	Email Address	How do you evaluate the expert talk?	Did you gain in terms of knowledge increase from Expert Sessions?	How would you rate the time given to expert session?
10/21/2024 14:24:30	sahilpatel3981@gmail.com	Excellent	Very Useful	Adequate
10/21/2024 14:44:13	kulkarniindranil123@gmail.com	Excellent	Useful	Adequate
10/21/2024 14:55:14	shivamvyas.ic21@scet.ac.in	Excellent	Very Useful	Adequate
10/21/2024 14:56:18	drashtijoshi3112@gmail.com	Excellent	Useful	Adequate
10/21/2024 14:56:37	vishnubagrawala.ic21@scet.ac.in	Excellent	Useful	Adequate
10/21/2024 15:00:41	rutubutani.ic21@scet.ac.in	Excellent	Useful	Adequate
10/21/2024 16:17:25	hitarthmakadia.ic23@scet.ac.in	Excellent	Useful	Adequate
10/22/2024 0:46:06	khushaldhameliya.ic23@scet.ac.in	Excellent	Useful	Adequate

The responses from the students indicates that the lecture was very effective for them.

Brief about the experts:

Dr. Mahmadasraf A. Mulla is an associate professor in Electrical department of SVNIT, Surat. He has 26 years of experience in teaching, his area of research is in Power converters, electrical drives, and renewable energy integration. He has total 88 publications. Out of which, there are 8 book chapters, 42 journal articles, and 38 conference papers.

Mr. Abid Mansuri is a senior engineer (R&D and Training) at NiTech Surat. He has completed is M.E.(Electrical) from SCET, Surat.

Report Prepared by

Tejal Joshi,
Assistant Professor, IC dept, SCET.