



Department of Electrical & Electronics Engineering

AICTE-ISTE INDUCTION / REFRESHER PROGRAMME

on

SOLAR PV SYSTEM DESIGN USING IoT

Phase-II : March 31st to April 8th 2021

Chief Patron

Dr. M. Sivanandham, Secretary, SVEHT

Patron

Dr. S. Ganesh Vaidyanathan, Principal, SVCE

Convener

Dr. KR. Santha, Vice-Principal

Coordinators

Dr. KR. Santha, Professor & Head / EEE

Dr. C. Gopinath, Associate Professor / EEE

Mr.D.S.Purushothaman, Asst.Professor / EEE

Co-Coordinator

Dr.S.Kumaravel, Asst.Professor / EEE

Mr. C.Venkatesan, Asst. Professor/EEE

Ms.S.Anitha, Asst.Professor / EEE

Ms. K.S.Pavithra, Asst. Professor / EEE

Mr.G.Vinothkumar, Asst .Professor / EEE

ABOUT THE INSTITUTION

Sri Venkateswara College of Engineering (SVCE), a premier self-financing Engineering College was started in the year 1985 and is managed by Sri Venkateswara Educational and Health Trust. The college conducts 11 B.E / B.Tech Degree Courses and 8 PG Courses in Engineering. The college has 11 Research Centers approved by Anna University cater to MS (by Research) and PhD programmes. The courses are approved by AICTE and affiliated to Anna University, Chennai. The college received Autonomous status in 2016. The college is accredited by National Assessment and Accreditation Council (NAAC). The college is situated in serene environment about 37 km from Chennai and situated on the way of Chennai – Bangalore National Highway (NH4) at Pennalur, Sriperumbudur, in Kanchipuram district.

ABOUT THE DEPARTMENT

The Department of EEE was started in the year 1994. The post graduate program (M.E) in Power Electronics and Drives was started in 2002. The department has secured permanent affiliation with Anna University and accredited by National Board of Accreditation (NBA) for the third consecutive time of Full Accreditation for five years. The Department has well equipped state-of-the-art laboratories and recognized as a Research Centre by Anna University. The Department has well qualified and experienced faculty and staff of proven ability and profound skills.

ABOUT THE REFRESHER PROGRAM

The AICTE-ISTE refreshment program is essential for the teachers in technical institution for their professional enhancement. The program provides an opportunity for teachers to familiarize themselves with modern engineering technologies including technical advancement adopted by the industry keeping in view the national needs and priorities and relevant technologies. The mission of the program is to impart the knowledge and proper training and enable the participants to become a solar professional and this program shall be a guide for those ambitious researchers who are looking for a challenging research area in solar sector.

OBJECTIVES:

- ❖ To create awareness about renewable energy.
- ❖ Disseminate the architectures of Solar PV system using Internet of Things.
- ❖ Inculcate the recent advancements in Solar PV technologies.
- ❖ Familiarize participants about the off grid system, on grid system and hybrid system of solar PV system.
- ❖ Training participants in the design of Solar PV through hands on session.
- ❖ Expertise participants for the design and simulation of Solar PV system using IoT.

TOPICS:

- Renewable Energy – an overview
- National policy and guidelines for solar power plant installation
- Theoretical background of PV systems
- Recent advancement in Solar PV technologies
- Solar cell efficiency enhancement
- Hands on training for PV system design
- Design of OFF-Grid, ON- Grid and Hybrid system
- Internet of Things
- Role of IoT in Solar PV system
- Hands on training for design of Solar PV system using IoT

RESOURCE PERSONS

Sessions will be handled by experts from National Institute of Solar Energy, National Institute of Wind Energy, Tamilnadu Electricity Board, Tamilnadu Energy Development Agency and Eminent faculty from IIT's, IITDM, NIT's, Anna University and other reputed institutions.

ELIGIBILITY

This AICTE-ISTE sponsored refresher program is open to Faculty members of AICTE approved Institutions, ISTE members, Research scholars and persons from Industries from all over the country. As per AICTE-ISTE guidelines no registration fee will be charged from the participants.

Registration link: <https://forms.gle/8GRfWCJeZc53q8RcA>

Scan QR



CERTIFICATE

A test shall be conducted at the end of the refresher program and the certificates shall be issued to those participants who have attended all the sessions of the refresher program and have qualified in the test. The number of participants will be limited to 100 for each Phase. Online meeting link will be sent to Whatsapp contact/Registered email. *For any queries:* svceaicteiste@svce.ac.in

ADDRESS FOR COMMUNICATION

The Coordinator, AICTE-ISTE Refresher Program

Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering, Irungattukottai post, Pennalur, Sriperumbudur Taluk, Tamilnadu - 602 117, Ph. No: 044-27152000 Ext.:251, 264
Mobile: 7871422330, 9940695670, 9840037637

svce.ac.in



REPORT OF AICTE-ISTE INDUCTION/REFRESHER PROGRAMME

on

”SOLAR PV SYSTEM DESIGN USING IoT” – Phase -II

The AICTE-ISTE INDUCTION/REFRESHER PROGRAMME on “**SOLAR PV SYSTEM DESIGN USING IoT**” – phase -II has been organized by the Department of Electrical and Electronics Engineering, Sri Venkateswara College of Engineering, Sriperumbudur in online mode during **31st March to 08th April 2021**. The key objective of this program is to impart knowledge and skills to the participants in the field of Solar and we believe that the goal has been achieved.

Detailed report of this AICTE-ISTE INDUCTION/REFRESHER PROGRAMME

On **31st March 2021** at 9:30 AM, this program was inaugurated and the welcome address was delivered by the **Programme Coordinator Dr. C. Gopinath**, Associate Professor; Department of EEE/SVCE.

A short note about the Induction/Refresher program and its objectives were given by the Vice Principal, Professor and Head, Department of EEE/SVCE- **Dr. KR. Santha**.

Dr. S. Ganesh Vaidyanathan, Principal, SVCE delivered the presidential address and highlighted on the Refresher/Induction program.

Dr. Sudhakar K Bharatan, Professor and Assistant Head, Department of EEE, SVCE introduced the **Chief Guest, Dr. K.Balaraman, Director General, National Institute of Wind Energy**

This Program was inaugurated by the **Chief Guest, Dr. K.Balaraman, Director General, National Institute of Wind Energy** and delivered the inaugural address to the excited audience.

After the detailed keynote session, the Vote of Thanks was delivered by the Coordinator **Mr. D.S. Purushothaman**, Asst. Prof/ EEE, SVCE.

Session # 2 on 31.03.2021, **Dr. PG. Nikhil, Assistant Director (Technical), National Institute of Solar Energy**, discussed in detailed about the “**Design Checks of Data Monitoring in a Solar PV Power Plants: An Overview**” .In

which Solar PV Power Plant's various parameter monitoring cum adjustments were discussed.

AICTE-ISTE Refresher Programme Phase-II (2021-03-30 at 22:46 GMT-7)

Learning Objectives of this Session

75 Minutes

- To Understand important classification in Data monitoring system for Solar power plants.
- **To learn about major parameters of measurement in a Solar PV power plant.**
- Discuss on Sample Data and Cases.
- Policy overview

5 Minutes

- **Learning Techniques.**

10 Minutes:

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Session #3 on 31.03.2021, **Dr.K.Srinivas Reddy**, Professor from the Department of Mechanical Engineering, Indian Institute of Technology Madras delivered a lecture on the topic "Theoretical background of Solar PV systems".

AICTE-ISTE Refresher Programme Phase-II (2021-03-31 at 01:00 GMT-7)

AICTE-ISTE Sponsored Refresher Programme

"SOLAR PV SYSTEM DESIGN USING IoT"


at

Department of Electrical and Electronics Engineering
Sri Venkateswara College of Engineering,
Pennalur | Sriperumbudur-Tk - 602117

March 31,2021

"Theoretical background of Solar PV systems"

Prof. K. S. Reddy
Department of Mechanical Engineering




Prof. K. S. Reddy

Session # 1 on 01.04.2021, **Dr. B. Chitti Babu, Assistant Professor (Sr. Grade)**, Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kancheepuram delivered lecture on “**Investigation on the Advanced Control Strategies of Grid-Tied Solar PV System**”. Various advanced control strategies of the grid-interconnected Solar PV System and its analysis were discussed in detail.

AICTE-ISTE Refresher Programme Phase-II (2021-03-31 at 21:00 GMT-7)

Advanced Control Strategies for Grid-tied Solar PV System



B.Chitti Babu Ph.D., SMIEEE
Photovoltaic(PV) Research Lab
IIITD&M Kancheepuram, Chennai
E-mail: bcbabu@iiitdm.ac.in

4/1/2021
Grid-Interconnected PV systems @IIITDM, Chennai

B Chitti Babu

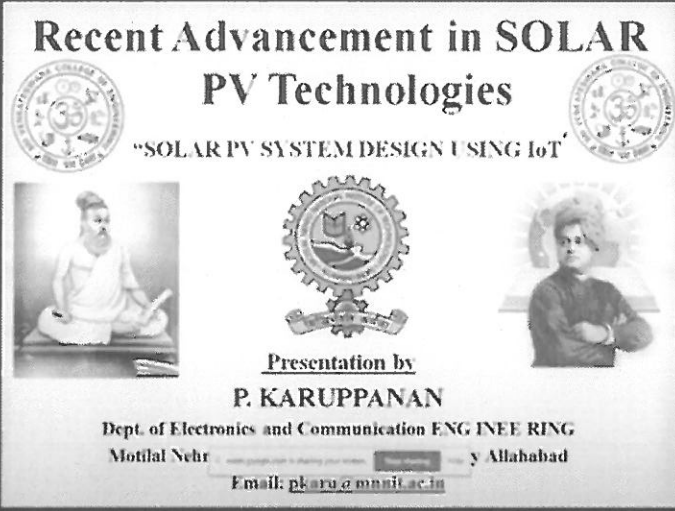
video player

▶ 🔊 2:28 / 1:38:07

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Session # 2 on 01.04.2021, **Dr. P. Karuppanan**, Assistant Professor, Motilal Nehru National Institute of Technology, Allahabad presented the lecture on “Recent Advances in Solar PV Technologies”. He briefed on the recent advancements in Solar PV technologies under grid-connected as well as stand-alone configurations.

AICTE-ISTE Refresher Programme Phase-II (2021-03-31 at 22:45 GMT-7)



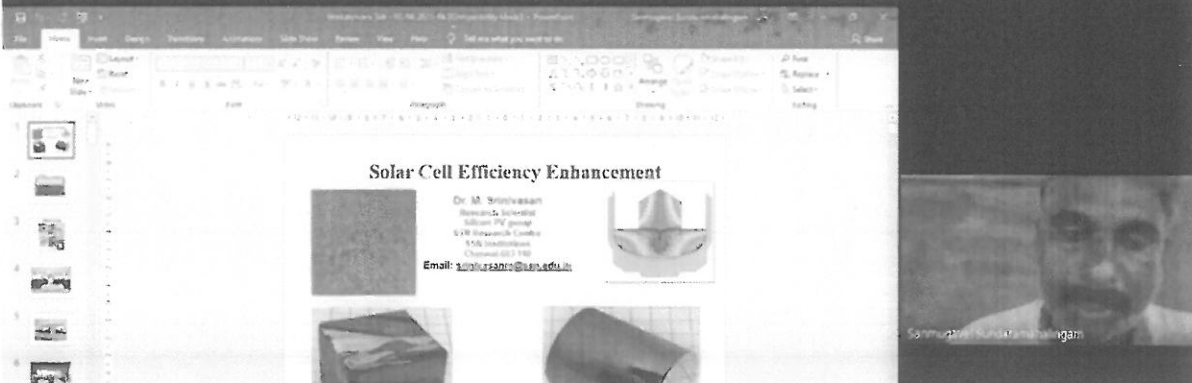
Recent Advancement in SOLAR PV Technologies
“SOLAR PV SYSTEM DESIGN USING IoT”

Presentation by
P. KARUPPANAN
Dept. of Electronics and Communication ENG INEE RING
Motilal Nehru National Institute of Technology Allahabad
Email: pkaru@mnit.ac.in

2:45 / 1:56:11

Session # 3 on 01.04.2021, **Dr. M. Srinivasan**, Research Associate, SSN Research Centre discussed on “Solar Cell Efficiency Enhancement” in detail. He discussed about the various materials used for the fabrication of solar cell and technologies for improvement of cell efficiency.

AICTE-ISTE Refresher Programme Phase-II (2021-04-01 at 01:11 GMT-7)



Solar Cell Efficiency Enhancement

Dr. M. Srinivasan
Research Associate
SSN Research Centre
SSN Institute of Technology
Chennai-605 014
Email: srinivasan@ssn.edu.in

Srinivasan M

On day 3, Session #2 on 03.04.2021, **Thiru. Raguram Arjunan, Co-Founder & Director of Operations at Cares Renewables** gave a lecture on “Solar PV System Design” and clearly explained about the simulation of PV systems.

AICTE-ISTE Refresher Programme Phase-II (2021-04-02 at 22:45 GMT-7)

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Cares Cleantech Development Initiative
A joint initiative from Cares Training Division and R&D Division

INSPIRE

- Training and certification programs to nurture the required competencies
- Customized programs based on profile of audience
- Skilled trainers and Hands-on training sessions

INCUBATE

- Partnership with institutions to conduct trainings and thought leadership sessions
- Host live projects, mentor students and offer internships and placements
- Mentor Entrepreneurs and other Consultants as a part of Cares Service Partner Program

INNOVATE

- Partnership with institutions for setting up Solar PV Lab for driving applied research
- Partnership with Companies to develop new products
- Guidance for I&D and paper publishing in the sector

SaveGen X Series Grid Tied Solar Plant- Overview

Raguram A

Video player

5:56 / 2:02:23

On day 3, Session #3 on 03.04.2021, **Dr. Tapan Kumar Jain, Indian Institute of Information Technology, Nagpur** delivered a session on “IoT Fundamentals”. Based on present scenario, the significances of the Internet of Things in various fields were discussed in detail.

AICTE-ISTE Refresher Programme Phase-II (2021-04-03 at 01:02 GMT-7)

Internet of Things: Overview


Dr. Tapan Jain
Head of Department (ECE)
Senior Member, IEEE
Department of Electronics and Communication Engineering
Indian Institute of Information Technology, Nagpur

April 3, 2021


Tapan Jain

Session # 1&2 on 05.04.2021, **Thiru. Sumit Gupta, Pragma Solar** handled the session **“Role of IoT in Solar PV System Design”**. He discussed about the importance of IoT for monitoring the various parameters from the solar plant using the PV system software.


AICTE-ISTE Refresher Programme Phase-II (2021-04-04 at 21:00 GMT-7)



a startup with a social vision
Comprising of Ex AT Kearney , PwC, Microsoft, TCS.....
A team of IIT, NIT & Harvard University Alumnus
Carving Solar Transformation for organizations



Solar Programs Partners Capacity building partner Solar partner Solar Chartered Engineer

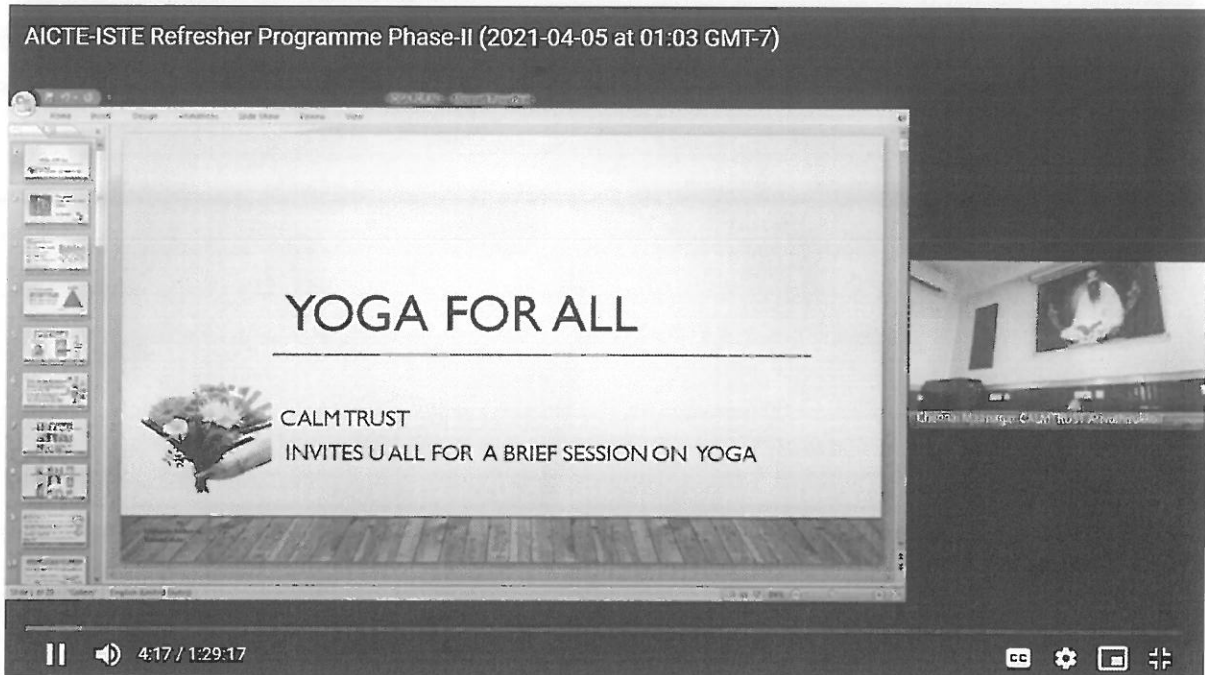


Sumit Gupta

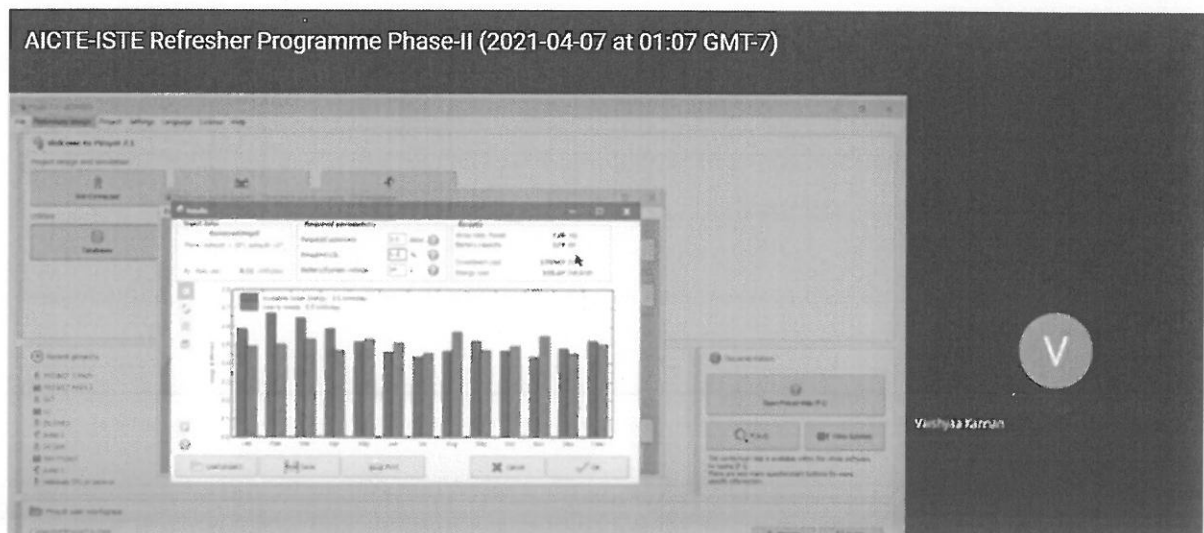
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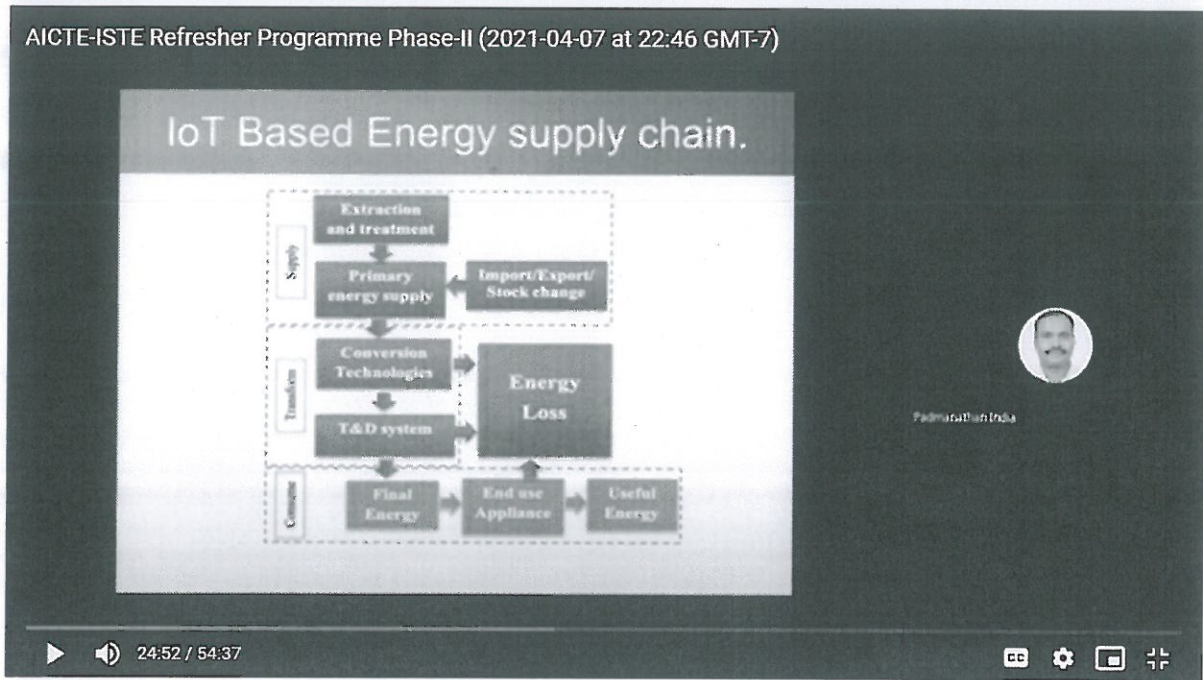
The session 3 on 05.04.2021, a program on **Yoga for Stress Management** was conducted by the **Vethathiri Maharishi Foundation**, as per the guide lines of AICTE-ISTE INDUCTION/REFRESHER PROGRAM.



Thiru. S. Selvakumar, Power Projects handled the “Hands on Session on IoT based Solar PV systems” which gave an insight to the participants in integrating IoT with solar PV systems on 07th April 2021.



On the last day of the program, 8th April 2021, **Dr.K.Padmanathan**, Agni Institute of Technology & Nestlives Pvt. Ltd addressed on “**Research Challenges in IoT based Solar PV Systems**”, following which Assessment test was conducted and feedback was received from participants.



The valedictory function of AICTE-ISTE INDUCTION/REFRESHER PROGRAMME on “**SOLAR PV SYSTEM DESIGN USING IoT**” – phase -2 was organized on 8.04.2021 (Thursday at 2.00 PM. The function started with ‘Thamiz Thai Vazthu’ followed by the welcome address by **Mr. D.S. Purushothaman**, Asst. Prof/ EEE, SVCE. The report of the program was presented by **Dr. KR. Santha**, Vice Principal, Professor and Head, Department of EEE/SVCE. **Dr. S. Ganesh Vaidyanathan**, **Principal, SVCE** delivered the presidential address. **Dr. Sudhakar K Bharatan**, Professor and Assistant Head, Department of EEE, SVCE introduced the **Chief Guest, Prof. Vijay D.Vaidya Executive Secretary, ISTE, New Delhi** . The valedictory speech was given by **Prof. Vijay D. Vaidya**. He appreciated Sri Venkateswara College of Engineering and the Department of Electrical and Electronics Engineering for having organized the Refresher Program which is the need of the hour. Vote of Thanks was given by the Coordinator **Dr. C. Gopinath**, Associate Professor; Department of EEE/SVCE.

Dr. C. Gopinath,
Associate Professor,
Coordinator

KR. Santh
29.7.21
KR. SANTHA, ME, PHD.,
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Head of the Department
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