Sri
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**REPORT ON**

# GUEST LECTURE ON ELECTROMAGNETIC FIELDS AND WAVEGUIDES: APPLICATIONS

**DATE OF EVENT** : 07.11.2024
**MODE OF EVENT** : ONLINE( Microsoft TEAMS)

**RESOURCE PERSON :**

Dr. G.Krishnaveni
Assistant Professor
ECE Department
Thiagarajar college of Engineering
Madurai
**Email ID - gkvece@tce.edu**
**Mobile No: 8072723195**

**OBJECTIVE OF THE EVENT:**

To gain insights from an expert in the field and discuss the latest advancements and practical implications of waveguides in various applications.

**PARTICIPANTS COUNT : 95**

**INVITATION:**

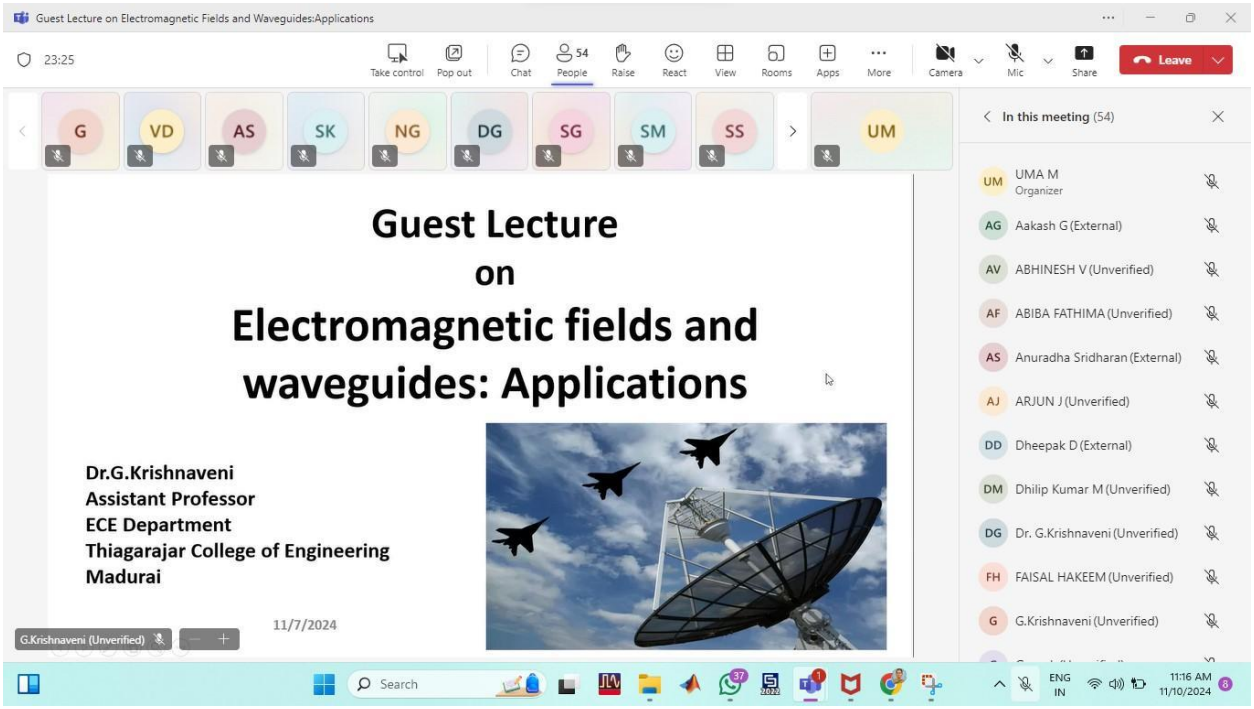

| STUDENT COORDINATOR | STAFF COORDINATORS | | | |
|---|---|---|---|---|
| ESWARAMOORTY V<br>ECE | MS UMA M<br>DR MANIKANDAN J<br>DR ANITHA N<br>MS SANDHYA J. | DR.J THAMIL SELVI<br>HEAD OF DEPARTMENT<br>ECE DEPARTMENT | DR. J. RAJA<br>PRINCIPAL | DR. SAI PRAKASH LEOMUTHU<br>CHAIRMAN & CEO<br>SAIRAM INSTITUTIONS |

**About The Event**

The Department of Electronics and Communication Engineering, Sri Sai Ram Engineering College in association with IEEE SEC EMC Society organized a “GUEST LECTURE ON ELECTROMAGNETIC FIELDS AND WAVEGUIDES: APPLICATIONS” on 7th November 2024 through Microsoft Teams Platform.

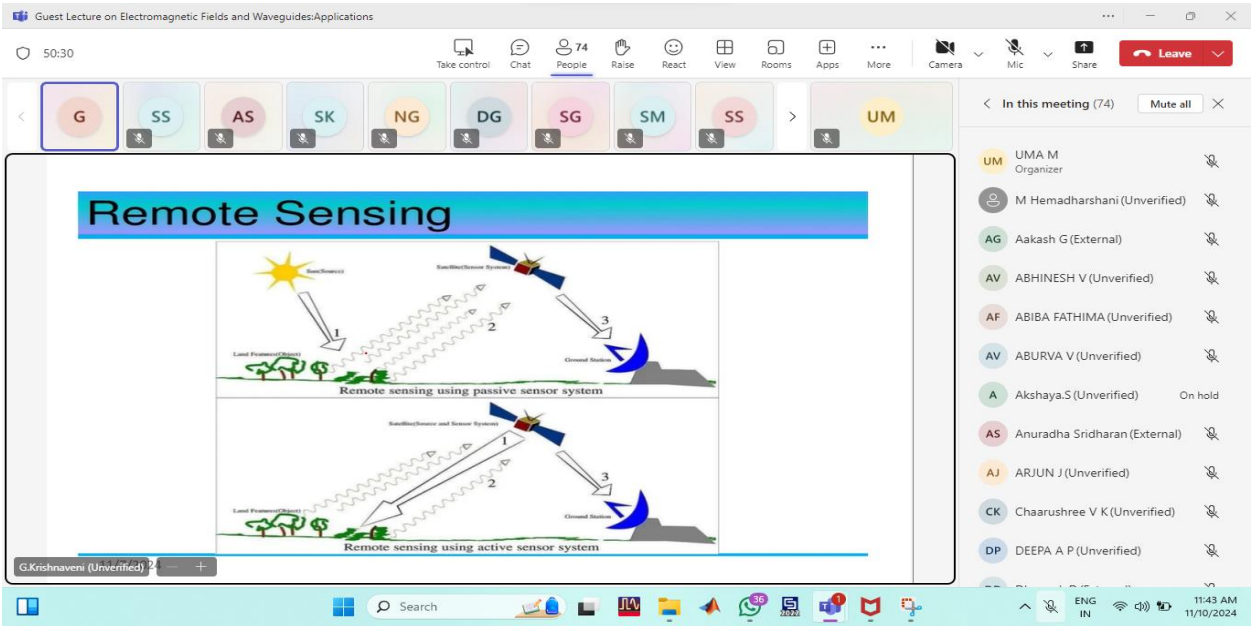
The event started by 7.00 pm, a Welcome Address was given by Sanjana S , 2nd year ECE Student. Then the session was taken over by the speaker, Dr.G.Krishnaveni, Assistant Professor, Thiagarajar College of Engineering, Madurai.

The Speaker started with the basic electromagnetic spectrum ans explained the band of frequencies. Then went through the coordinate systems and its related topics and pointed out the applications related to that and also gave some of the points n waveguides which was very motivated for the students to carry out the future projects on Antenna design .The students gave a very positive feedback about the event and also gave some suggestions on future antenna topics .




**The above image shows the start of the event and participants joining the meet.**

The Speaker Dr.G.Krishnaveni covered the concepts of Electromagnetic fields and waveguides on various Applications




**Speaker explaining about the Remote Sensing Application**

Guest Lecture on Electromagnetic Fields and Waveguides:Applications

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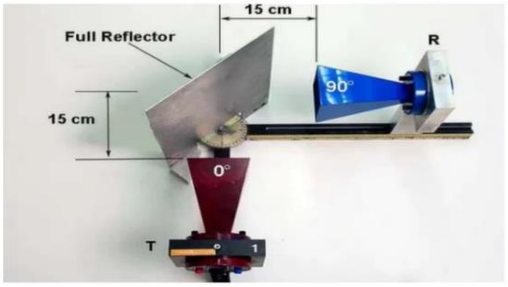
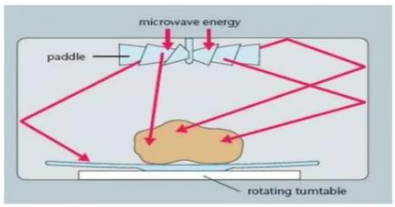
Take control | Pop out | Chat | People 64 | Raise | React | View | Rooms | Apps | More | Camera | Mic | Share | Leave

# Characteristics- Reflection From Metallic Surfaces




11/7/2024

G.Krishnaveni (Unverified)

Participants

Type a name

In this meeting (64) Mute all

UM UMA M Organizer
M Hemadharshani (Unverified)
AG Aakash G (External)
AV ABHINESH V (Unverified)
AF ABIBA FATHIMA (Unverified)
A Akshaya.S (Unverified)
AS Anuradha Sridharan (External)
AJ ARJUN J (Unverified)
DP DEEPA A P (Unverified)
DD Dheepak D (External)

Search

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# Electromagnetic Spectrum

Microwave frequency bands

| Designation | Frequency range | Wavelength range | Typical uses |
|---|---|---|---|
| L band | 1 to 2 GHz | 15 cm to 30 cm | military telemetry, GPS, mobile phones (GSM), amateur radio |
| S band | 2 to 4 GHz | 7.5 cm to 15 cm | weather radar, surface ship radar, and some communications satellites (microwave ovens, microwave devices/communications, radio astronomy, mobile phones, wireless LAN, Bluetooth, ZigBee, GPS, amateur radio) |
| C band | 4 to 8 GHz | 3.75 cm to 7.5 cm | long-distance radio telecommunications |
| X band | 8 to 12 GHz | 25 mm to 37.5 mm | satellite communications, radar, terrestrial broadband, space communications, amateur radio |
| $K_u$ band | 12 to 18 GHz | 16.7 mm to 25 mm | satellite communications |
| K band | 18 to 26.5 GHz | 11.3 mm to 16.7 mm | radar, satellite communications, astronomical observations, automotive radar |
| $K_a$ band | 26.5 to 40 GHz | 5.0 mm to 11.3 mm | satellite communications |

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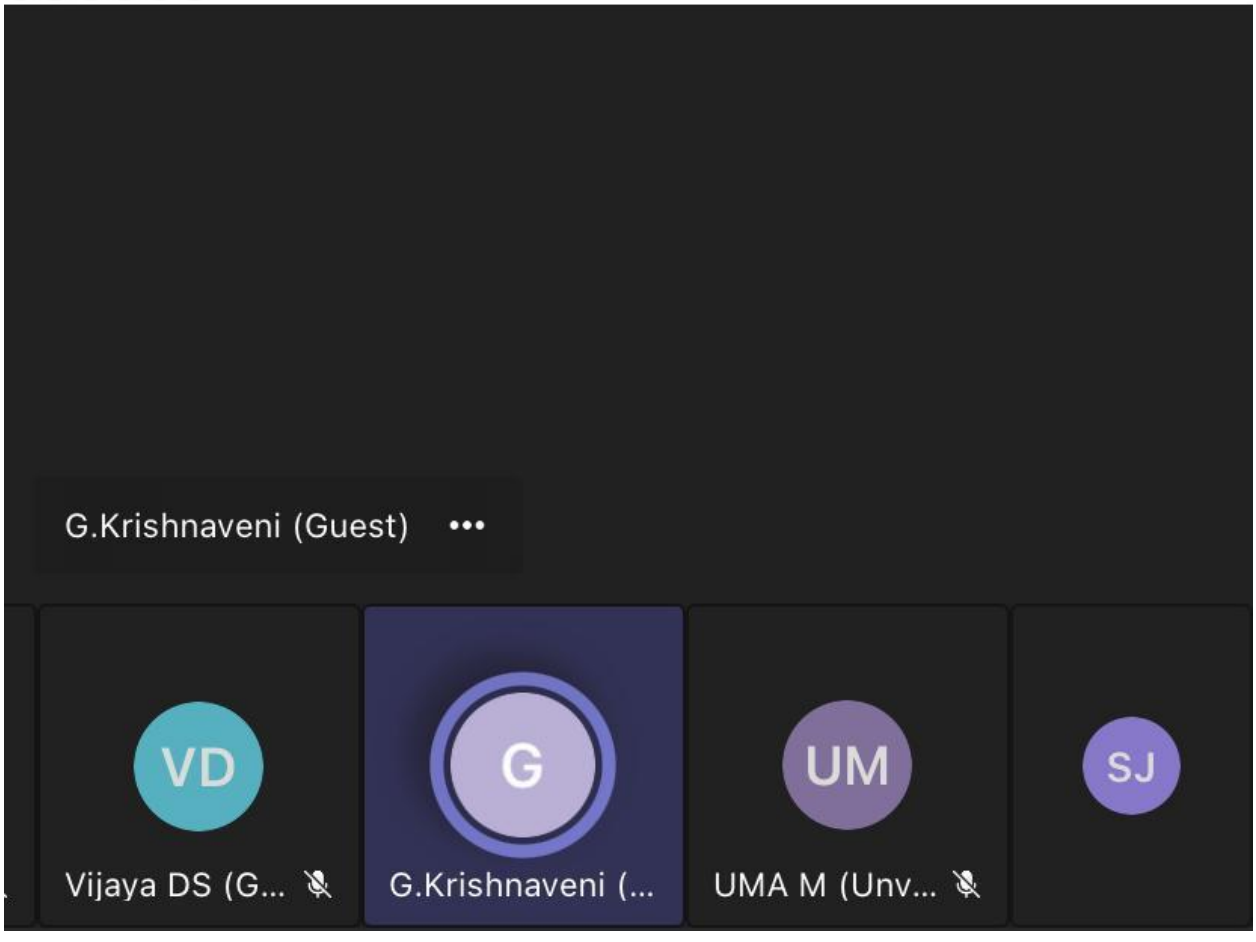
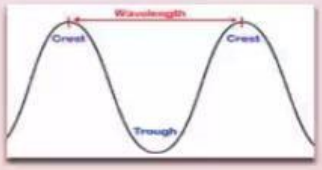


# Characteristics of Microwaves

1. Small size wavelength

f=1GHz

$\lambda=c/f=3x10^{10}/1x10^{9}=30cm$




f=30GHz

$\lambda=c/f=3x10^{10}/30x10^{9}=1cm$

Wave lengths are same as dimensions of components, so distributed circuit elements or transmission theory is applied.

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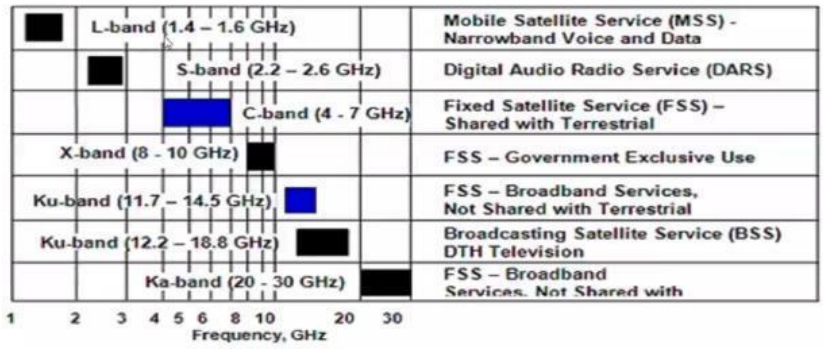
# Microwave Frequency Range

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G.Krishnaveni (Guest) •••

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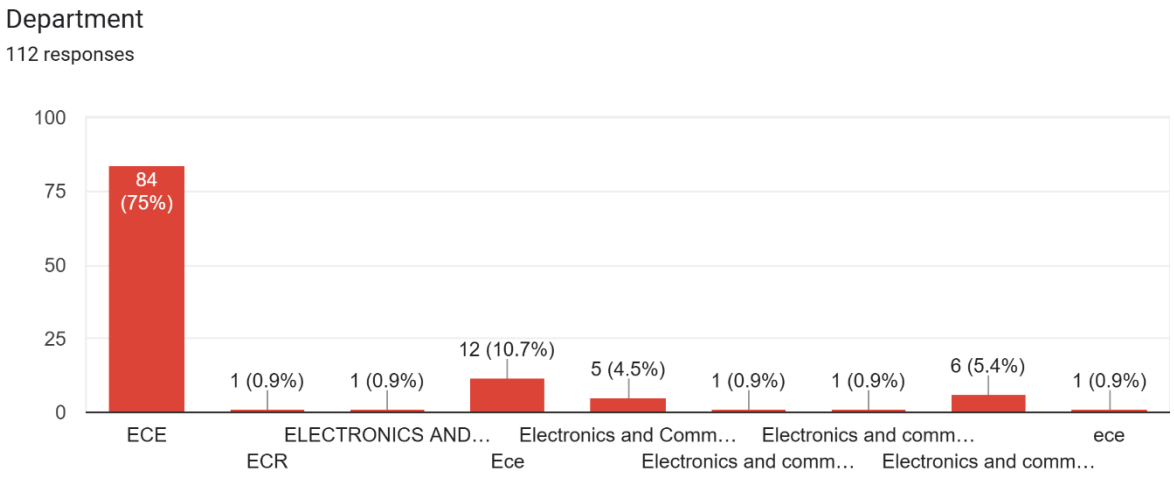
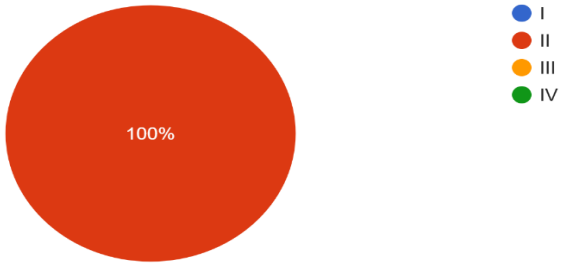
## FEEDBACK ANALYSIS:



## Year

112 responses




## Section

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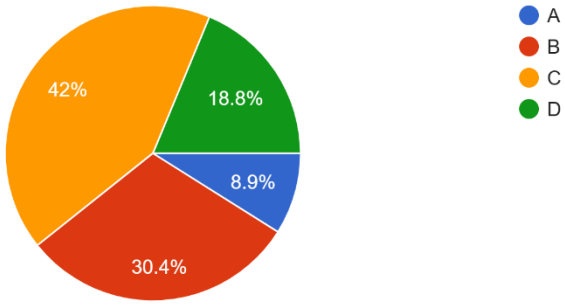


## Rate your experience about this event

112 responses