

# *Field Trip Report*

## **Date & Time**

**Date:** 23 December

**Time:** Full day (Educational Visit)

## **Location**

1. Doppler Weather Radar Station, Machilipatnam
2. Rolled Gold Jewellery Industries, Machilipatnam

## **Purpose**

The purpose of the field trip was to provide M.Sc. Physics students with practical exposure to real-time applications of physics concepts in meteorology and industrial processes. The visit aimed to bridge the gap between theoretical knowledge and its practical implementation.

## **Participants**

**Students:** 28 (I&II M.Sc. Physics students)

**Faculty Members:** 11 from department of physics

## **Observations**

At the Doppler Weather Radar Station, Machilipatnam, Mr. Avinash Ghosh, Meteorologist, explained the functioning of the meteorological observatory. He demonstrated the methods used for measuring maximum and minimum temperatures and explained the working principles of various hygrometers used to measure atmospheric humidity. He also shared valuable insights into weather observation techniques and data interpretation.

Later, Mr. Anand and Mr. Karthik, Scientific Officers, explained the construction and working principle of the Doppler Weather Radar. They described the role of radar in detecting storms, rainfall distribution, and severe weather conditions. Students gained hands-on knowledge of identifying storm patterns using radar data, which enhanced their understanding of atmospheric physics.

After the radar station visit, the group visited rolled gold jewellery industries in Machilipatnam. Students observed the jewellery manufacturing process, with special emphasis on the electrolysis technique used for coating and finishing. This industrial visit helped students relate electrochemistry concepts to real-world applications.

## **Challenges Faced**

- Limited time at each location restricted detailed interaction with all instruments.
- Students required prior basic orientation to fully grasp advanced meteorological instruments.
- Managing a large group across two different sites required careful coordination.

## **Outcomes**

- Students gained practical knowledge of meteorological instruments and radar technology.

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- Enhanced understanding of weather monitoring, storm detection, and data analysis.
- Improved ability to relate classroom theory with real-time applications in meteorology and industrial physics.
- Increased student interest and motivation towards research and applied physics fields.

### Recommendations

- More such interdisciplinary field trips should be organized regularly.
- Pre-visit orientation sessions can help students understand advanced concepts better.
- Longer interaction time with scientific officers and industry experts would enhance learning outcomes.

### Conclusion

The educational visit to the Doppler Weather Radar Station and rolled gold jewellery industries was highly informative and successful. It provided valuable practical exposure, enriched students' understanding of applied physics, and inspired them to explore real-world scientific and industrial applications. The field trip effectively fulfilled its academic objectives and was well appreciated by both students and faculty members.

### Photo Gallery

Doppler Weather Radar Station, Machilipatnam





**Explanation of Doppler weather Radar working**



**Career and job opportunities at Doppler Weather Radar Station Machilipatnam**







**Artificial Jewelry Making explanation at Rolled Gold Jewellery Industries,  
Machilipatnam**

*Ch. Komala Lakshmi*

Smt. Ch. Komala Lakshmi

HOD of Physics & Electronics

*Dr. Ramachandra RK*

Dr. Ramachandra RK

Principal