



CIRCULAR DICHROISM (CD) AND MOSSBAUER SPECTROSCOPY FOR CHEMISTS

PROF. ARNAB DUTTA

Department of Chemistry
IIT Bombay

PRE-REQUISITES : BSc or BTech

INTENDED AUDIENCE : Chemistry and chemical engineering masters students Chemistry PhD students

COURSE OUTLINE :

In this course, we are going to discuss the fundamentals of two unique spectroscopic techniques: Circular Dichroism (CD) and Mossbauer spectroscopy. These techniques are becoming essential for deciphering the structural dynamics of inorganic complexes in recent times.

ABOUT INSTRUCTOR :

Prof. Arnab Dutta is an associate professor in the chemistry department, IIT Bombay. His research interest lies in the field of bio-inorganic chemistry. He specializes in teaching the courses belonging to inorganic chemistry.

COURSE PLAN :

Week 1: Optical rotation, Optical rotatory dispersion

Week 2: Cotton effect, Circular Dichroism (CD)

Week 3: Physical origin of CD

Week 4: Examples of CD spectroscopy for inorganic molecules

Week 5: Applications of CD spectroscopy-I

Week 6: Applications of CD spectroscopy-II

Week 7: Mossbauer Spectroscopy: Basic principle

Week 8: Isomer Shift

Week 9: Quadrupolar Splitting

Week 10: Examples of Mossbauer Spectra analysis-I

Week 11: Examples of Mossbauer Spectra analysis-II

Week 12: Applications of Mossbauer Spectroscopy