Contribution ID : **52** Type : **Poster**

Evaluating water based samples at THz frequencies utilizing attenuated total reflection apparatus in “true ATR” and partial reflection/partial transmission mode.

A technique that extends the capabilities of attenuated total reflection (ATR) apparatus to an additional partial reflection/partial transmission mode is explored, using water and water based biological tissues as samples at terahertz radiation frequencies (THz). The method uses synchrotron radiation and a diamond crystal in the ATR apparatus to track the temperature dependent changes in reflectance in the 0.5 to 10 THz range. The “thermal crossover and flare” feature in the ATR spectral scan is noted which seems to be characteristic of water dominated compounds. Since many cancers have higher water content than normal tissue, this method promises to establish a new diagnostic modality.

Level of Expertise

Early Career <5 years

Presenter Gender

Man

Pronouns

Do you intend to attend UM2022

Unsure at this stage

Students Only - if available would you be interested in student travel funding

Students Only – Do you wish to take part in the Student Poster Slam

Terms and conditions (Please confirm that you have read all the requirements and agree to the conditions)

Yes

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