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Nonlinear Optical Properties of Natural Dyes

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Abstract content
 (Max 300 words)

We report on optical properties of natural dyes extracted from plant materials such as beetroot, mimosa and flame flowers. Natural dyes have been known historically for their applications in food and textile industries. However, more attention is being paid to these materials as they exhibit a large π -electron conjugated systems, which could be a source of strong nonlinearity of optical properties required for photonic and optical switching devices. Therefore, optical measurements of samples have been carried out using the UV-visible, FTIR and optical limiting techniques by femtosecond laser. The characterization of the dyes have shown common functional groups but at different amount for their molecular structure. On the other hand, the results have indicated a possible applications of these materials as optical limiters used for photosensitive devices and eyes protection.

Apply to be
 consider for a student
 award (Yes / No)?

Yes

Level for award
(Hons, MSc,
 PhD)?

MSc

Main supervisor (name and email)
and his / her institution

Malik Maaza

Would you like to
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yes

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