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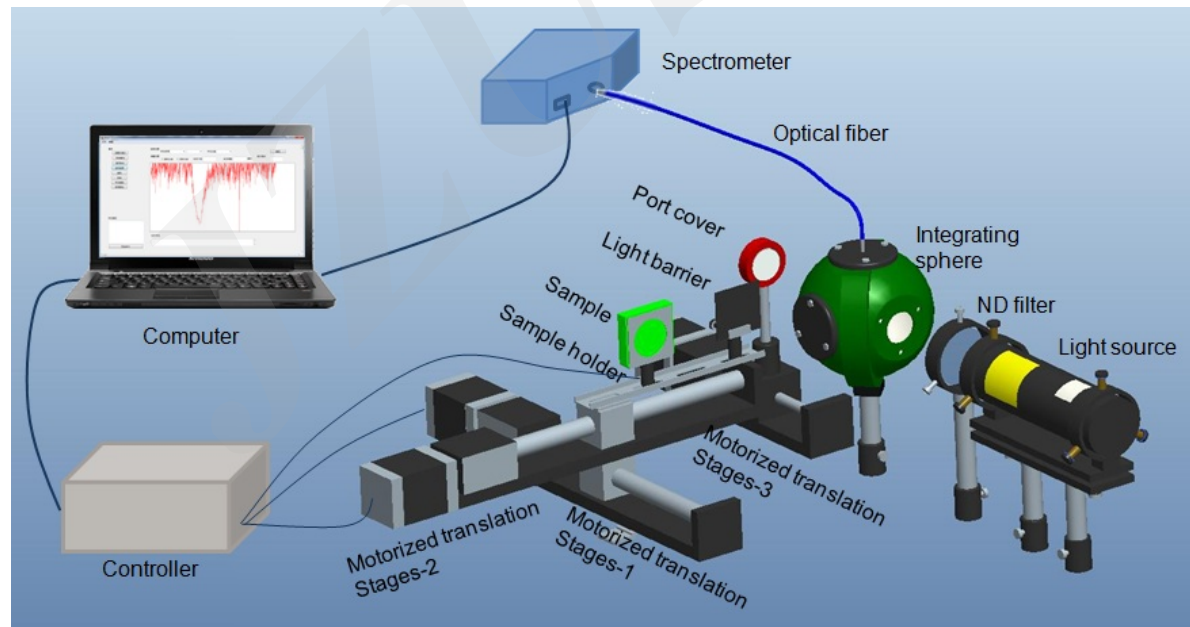
Investigation of absorption and scattering characteristics of kiwifruit tissue using a single integrating sphere system

Key words: Optical properties, Integrating sphere, Inverse adding-doubling, Kiwifruit

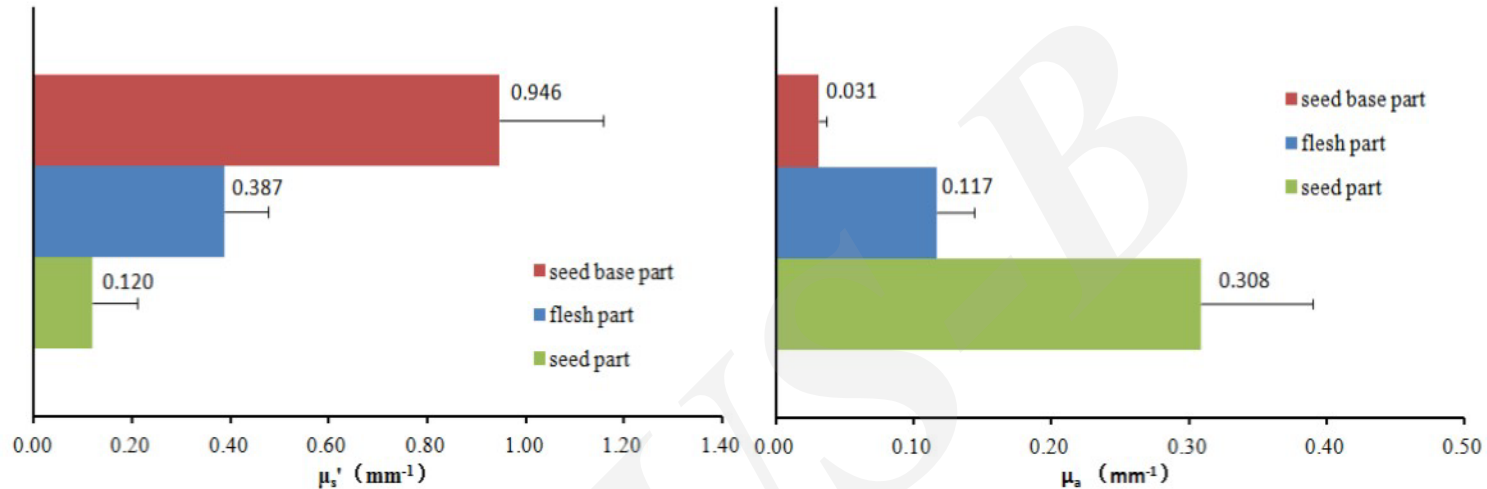
Research Summary

This research aimed to measure the optical properties of kiwifruit tissues using a low power Helium-Neon (He-Ne) laser (632.8 nm) and a single integrating sphere system. Specific objectives were to:

- ① Establish an integrating sphere system for measuring the optical properties of biological tissue;
- ② Estimate the absorption coefficient μ_a and the reduced scattering coefficient μ_s' of the kiwifruit tissue using the established system and the IAD method;
- ③ Compare the optical properties of kiwifruit tissue from three different parts .



Innovation points



flesh

seed



Seed-base

- The mean values of μ_a and μ_s' of tissue in different parts of kiwifruit were 0.031-0.308 mm^{-1} and 0.120-0.946 mm^{-1} at 632.8 nm, respectively.
- Significant differences were found for the optical properties of kiwifruit tissue in different parts.