Optics of humic substances: recent advances

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The origin of optical properties of DOM and humic substances (HS) is still a matter of active debates in the literature. The key question is why are the optical spectra of dramatically different (in terms of molecular composition) samples so similar. Recently, we've uncovered ultrafast decay component in fluorescence decay of DOM and HS and interpreted it as an evidence of fluorophores interaction within the system [1], thus favoring the interaction rather than the pure superposition model. The next step was the detailed analysis of artificial systems exhibiting humic-like optical properties. Using this framework, the mechanisms of optical properties formation in DOM and HS can be extended for a broad range of natural systems.

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References

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