

Abstract Submitted
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Excitation dynamics in purple bacteria photosynthetic membranes under different light adaptation conditions FELIPE CAYCEDO, FERNEY RODRIGUEZ, LUIS QUIROGA, Universidad de los Andes — Photosynthetic membranes in *R. Sphaeroides* purple bacteria adapt to light growth conditions such as the intensity level of radiation, which determine their amount of Reaction Centers (RCs), and also their global architecture. In any case, for both high and low intensity conditions the trend for core (LH1) and antenna (LH2) complexes clustering is maintained. Using a Förster hopping model for excitation transfer, we analyze different adapted membranes for which we report results for the yield and lifetime of excitations under continuous illumination levels. We show that complexes stoichiometry obey to efficiency optimization under RC biochemical cycle constraints. By contrast to common belief, complexes aggregation does not directly show any strong dependence on excitation efficiency observables.

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