



EGUsphere, referee comment RC1
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Comment on egusphere-2022-493

Hoa Nguyen (Referee)

Referee comment on "FABM-NflexPD 2.0: testing an instantaneous acclimation approach for modeling the implications of phytoplankton eco-physiology for the carbon and nutrient cycles" by Onur Kerimoglu et al., EGU sphere,
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The paper presented a model of phytoplankton instantaneous acclimation (IA), FABM-NflexPD 2.0 (K21), which was further developed from its earlier version FABM-NflexPD 1.0 (K11). The K21 was extended from K11 to account for and conserve both C and N fluxes. The K21 was said might lower in computational costs compared to its DA (Dynamic Acclimation) variant due to less state variables. The K21 was then tested in 4 scenarios and its performance was compared to its DA variant

The paper has achieved its goals, e.g., the model was successfully built and its performance was almost as same as the DA's. However, the treatment of N mass balance (section 4.1) that made it violate the model assumption sounded unconvinced. Has the paper tried out alternative treatments to this issue? Might the paper state strength, weakness and applications of the K21?

Technical errors: (1) line 14: approach; (2) p.11, title of 3.3: "in simulating" appeared twice.