

## Stability of phytoplankton dynamics

Ovide Arino<sup>1</sup> and Ryszard Rudnicki<sup>2</sup> .

We present a model of the phytoplankton dynamics. The model is described by a transport equation which contains terms responsible for the growth of phytoplankton aggregates, their fragmentation and coagulation. The Cauchy problem is studied. The solutions of this equation form a non-linear semigroup of positive operators on some space integrable functions. It was proved that under suitable assumptions this semigroup is globally asymptotically stable.

---

<sup>1</sup>UR GEODES, IRD-Bondy, 32 avenue Henri Varagnat, 93143 Bondy, France (e-mail: Ovide.Arino@bondy.ird.fr).

<sup>2</sup>Institute of Mathematics, Polish Academy of Sciences and Institute of Mathematics, Silesian University, Bankowa 14, 40-007 Katowice, Poland. (e-mail: rudnicki@us.edu.pl).