

Strong competition versus fractional diffusion

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Let us consider the reaction-competition-fractional diffusion system

$$(-\Delta)^s u_i = f_i(u_i) - \beta u_i \sum_{j \neq i} u_j^p, \quad i = 1, \dots, k,$$

where $0 < s < 1$, and either $p = 2$ (variational interaction) or $p = 1$ (Lotka-Volterra one). In this talk I will report on some results obtained in collaboration with S. Terracini and A. Zilio, about the validity of a-priori Hölder bounds, uniform as $\beta \rightarrow +\infty$.