

A chemotaxis-Navier-Stokes model with potential consumption

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We deal with a Keller-Segel-Navier-Stokes system with potential consumption over a bounded three-dimensional domain. The cases where there is no fluid flow, or the consumption has a linear rate have been previously dealt with. This work then handles the open question of whether global solutions exist for this system. The solution is obtained through a time discretization approach and a regularization of the system, using suitable truncations.

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