

A sharp mass threshold for boundedness in a critical quasilinear chemotaxis model with indirect signal production: the radially symmetric case

Philippe Laurencot

A critical quasilinear chemotaxis model with indirect signal production in dimensions higher than two is studied under radial symmetry. Exploiting the variational structure of the system, the existence of a sharp mass threshold $M_c > 0$ is established: solutions with mass below M_c are global and bounded, while those with mass above M_c and sufficiently negative energy are global but unbounded.