

# Well-posedness of general cross-diffusion systems

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In this paper, we are concerned with the Cauchy problem for some quite general cross-diffusion systems. Their analysis is known to be difficult because of the coupling of the highest order derivatives terms (see [1, 2, 3, 4, 5]). A global existence result for nonnegative solutions is obtained by applying Schauder fixed point theorem to a linearized system using some energy estimates. An extension of a regularity result due to Meyer allows to prove that the gradient of the solution belongs to the space  $L^r((0, T) \times \Omega)$  for some  $r > 2$ . This regularity for  $r = 4$  implies the uniqueness of the solution.

## References

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