

Van Kampen's expansion approach in an opinion formation model

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We analyze a simple opinion formation model consisting of two parties, A and B , and a group I , of undecided agents. We assume that the supporters of parties A and B do not interact among them, but only interact through the group I , and that there is a nonzero probability of a spontaneous change of opinion ($A < - > I$, $B < - > I$). From the master equation, and via van Kampen's Ω -expansion approach, we have obtained the "macroscopic" evolution equation, as well as the Fokker-Planck equation governing the fluctuations around the deterministic behavior. Within the same approach, we have also obtained information about the typical relaxation behavior of small perturbations.