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Boundary conflicts and cluster coarsening: Waves of life and death in the cyclic competition of four species¹ AHMED ROMAN, MICHEL PLEIMLING, Virginia Tech — In the cyclic competition among four species on a two-dimensional lattice, the partner particles, which swap positions on the lattice with some probability, produce clusters with a length that grows algebraically as $t^{1/z}$ where z is the dynamical exponent. Further investigation of the dynamics at the boundary of the clusters is realized by placing one partner particle pair in the upper half of the system and the other pair in the lower half. Using this technique, results about the fluctuations of the interface are obtained. We also observe wave fronts in the case of non-symmetric reaction rates where extinction of a partner particle pair takes place.

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