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Moment ratios and dynamic critical behavior of a reactive system with several absorbing configurations¹ WAGNER FIGUEIREDO, MARCELO FREITAS DE ANDRADE, Departamento de Física - UFSC - Brazil — We determine the critical behavior of a reactive model with many absorbing configurations. Monomers A and B land on the sites of a linear lattice and can react depending on the state of their nearest-neighbor sites and temperature of the catalyst. We consider that monomers of the type A are allowed to react with nearest-neighbor monomers A or B, but reactions between monomers B are forbidden. Besides the temperature of the catalyst, we also include lateral interactions between pairs of nearest-neighbor monomers. We employ Monte Carlo simulations and finite-size scaling arguments to calculate the moments of the order parameter of the model as a function temperature. Some ratios between pairs of moments are independent of temperature and are in the same universality class of the Contact Process. We also find the dynamical critical exponents of the model and we show that they are in the direct percolation universality class whatever the values of temperature.

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