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Temporal disorder in discontinuous absorbing phase transitions MARCELO M. DE OLIVEIRA, Universidade Federal de Sao Joao del Rei, CARLOS E. FIORE, Universidade de Sao Paulo — Recently it was shown that spatial (quenched) disorder can suppress discontinuous absorbing phase transitions (APTs) [1]. However, the scenario for temporal disorder is still unknown. Here, we investigate the effects of temporal disorder in models exhibiting discontinuous APTs. In contrast to spatial disorder, our results strongly suggest that uncorrelated temporal disorder does not forbid the existence of discontinuous APTs. We found they are characterized by behaviors similar to their pure (without disorder) counterparts, including bistability around the coexistence point and common finite size scaling behavior with the inverse of the system volume, as recently proposed in [2]. We also observe that temporal disorder does not induce temporal Griffiths phases around discontinuous APTs [3].

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