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Effects of causal hydrodynamic fluctuations on observables in relativistic heavy-ion collisions KOICHI MURASE, the University of Tokyo, TETSUFUMI HIRANO, Sophia University — In recent years, the flow harmonics v_n are systematically observed in relativistic heavy-ion collision experiments at RHIC and LHC, and attract a lot of theoretical and experimental interests. Initial state fluctuations turned out to be important to explain these flow harmonics through event-by-event numerical calculations. While, there are other sources of fluctuations such as hydrodynamic fluctuations which are thermal fluctuations of hydrodynamics, and they have effects on the flow harmonics and other observables in the same matter as the initial fluctuations. We implement (3+1)-dimensional relativistic fluctuating hydrodynamics, which is viscous hydrodynamics with causal hydrodynamic fluctuations [1], in our dynamical models. We then investigate the effect of the hydrodynamic fluctuations on observables such as flow harmonics, and compare the effect with that of the initial fluctuations.

[1] Koichi Murase, Tetsufumi Hirano, arXiv:1304.3243 [nucl-th]

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