Lifshitz solutions and the effects of high-order operators

XIN-WEN WANG, Baylor University, JIE YANG, Lanzhou University, MIAO TIAN, Lanzhou Jiaotong University, ANZHIWANG, YANBIN DENG, Baylor University, CASPER TEAM — e study the effects of high-order operators on the non-relativistic Lifshitz holography in the framework of the Hořava-Lifshitz (HL) theory of gravity, which naturally contains high-order operators in order for the theory to be power-counting renormalizable, and provides an ideal place for such studies. In particular, we show that the Lifshitz spacetime is still a solution of the full theory of the HL gravity. The effects of the high-order operators on the spacetime itself is simply to shift the Lifshitz dynamical exponent.

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