Equivalence of different solutions to double phase equations

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摘要：Double phase functionals were first introduced by V. V. Zhikov in 1980s to characterize the features of the strongly anisotropic materials, homogenization and Lavrentiev phenomenon. Since M. Colombo and G. Mingione solved the basic regularity issue on such functionals in 2015, the relevant theory on this kind of problems has made rapid progress from the variational point of view, but, in sharp contrast, viscosity theory is rarely explored. In this talk we present the regularity of viscosity solutions to double phase equations, together with the inner relationship between such solutions and the weak solutions in Musielak-Orlicz-Sobolev space.

个人简介：张超，哈尔滨工业大学数学学院和数学研究院教授、博士生导师。本科和硕士毕业于吉林大学，博士毕业于北京大学。研究领域为函数空间、非线性椭圆和抛物型偏微分方程的基础理论，在 Math. Ann., J. Func. Anal., Calc. Var. Partial Differential Equations, Indiana Univ. Math. J.和Int. Math. Res. Not. IMRN等权威期刊发表论文50余篇。目前担任黑龙江省数学会秘书长，国际SCI期刊《Advances in Nonlinear Analysis》编委。曾获教育部首届博士研究生学术新人奖（2010），北京大学优秀博士学位论文（2011），黑龙江省数学会第二届优秀青年学术奖（2018），哈尔滨工业大学第六批青年科学家工作室学术带头人（2022）。