Lagrangian Acceleration Statistics in Curvilinear Coordinates
OLIVER KAMPS, Center for Nonlinear Science, University of Muenster, MICHAEL
WILCZEK, Institute for Theoretical Physics, University of Muenster — In this talk
we present results from the analysis of the Lagrangian acceleration statistics in curvi-
linear coordinates. The investigation is based on numerical simulations of isotropic,
homogeneous turbulence in three dimensions for a certain range of Reynolds num-
bers. We focus on the effect of curvilinear coordinates on statistical observables like
the cross correlation between acceleration components and the long time memory
of the acceleration. Beside this we compare our observations to the correspond-
ing observables in simulations of two-dimensional turbulence in the inverse cascade
regime.

Oliver Kamps
Center for Nonlinear Science, University of Muenster