Velocity fluctuations from randomly moving particles at low Re
BRUNO ECKHARDT, JUERGEN BUEHRLE, Philipps Universitaet Marburg —
We discuss the solution of the time-dependent Stokes equation for particles under-
going random changes in their velocity. Three regimes in the spatial variation of the
velocity field and in the second moment of the velocity fluctuations can be distin-
guished. With increasing distance from the particles, the velocity fluctuations drop
off first like $1/r^2$, then like $1/r^4$ and finally like $1/r^6$ for the largest distances. The
results will be related to observations on velocity fluctuations in suspensions.

Bruno Eckhardt
Philipps Universitaet Marburg

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