Physics AUC, vol. 6 (1996) 27-35 **PHYSICS AUC**

Stochastic vs. kinetic approach in the theory of anomalous transport in plasmas

R. Balescu

Association Euratom-Etat pour la Fusion, Physique Statistique et Plasmas, CP231, Université Libre de Bruxelles, Campus Plaine, 1050 Bruxelles, Belgique

ABSTRACT

The anomalous diffusion coefficient in a turbulent plasma with destroyed magnetic surfaces can be introduced in two ways. The first one starts from a stochastic Langevin equation from which the mean square displacement of a test particle is calculated. The second one is based on a kinetic equation from which the correlation function of fluctuating quantities is computed. The two approaches are critically compared.