

Area Seminar

Title	CONVERTING SPACE INTO TIME: HOW TO ORDER THE DISORDERED (Studies in the Effective Medium Approximation in Transport Theory)
Date and Time	01/02/2011 16:00:00
Speaker	V. M. Kenkre
Area	University of New Mexico, Albuquerque, USA
Venue	Theoretical Physics Room No. 469
Abstract	Effective medium theory of transport in disordered systems, whose basis is the replacement of spatial disorder by temporal memory, is extended in several practical directions. A transformation procedure is developed to deduce, from given distribution functions characterizing the system disorder, explicit expressions for the memory functions. The extent of the agreement of effective medium theory predictions with numerically computed exact results is explored and a number of new results are discussed including emergence of a percolation threshold, of spatially long range transfer rates, size effects, and pausing time distributions in continuous time random walks corresponding to the effective medium memories.