1014-49-1346 **Miguel A Dumett*** (`dumett@usc.edu`), USC Department of Mathematics, Kaprielian Hall, Room 108, 3620 Vermont Avenue, Los Angeles, CA 92782. *Some PDE models for the simulation of alcohol transport in the body and extensions of the Kalman filtering to non-normal distributions.* Preliminary report.

Some PDE models are utilised to describe the evolution of the movement of alcohol in the human body. Parameters of the models are fitted using a minimization of the energy norm of the difference between skin vapor alcohol data and the corresponding values predicted by the models. Extensions of the Kalman filtering methodology to non-normal distributions together with some statistical techniques are employed for correcting the estimates of the evolution of alcohol concentration in the body. (Received September 27, 2005)