999-92-40 **W. Fitzgibbon*** (`fitz@uh.edu`), College of Technology, University of Houston, Houston, TX 77204-4021, **M Langlais** (`langlais@sm.u-bordeaux2.fr`), UMR CNRS 5466, case 26, Victor Segalen Bordeaux 2, Bordeaux Cedex, 33076, and **J Morgan** (`jmorgan@math.uh.edu`), Department of Mathematics, University of Houston, Houston, TX 772004-300. *A Mathematical Model Describing the Spread of Panleucopenia Virus Within Feline Populations.*

The spatio-temporal spread of Feline Panleucopenia Virus (FPLV) within a distributed feline population is modeled by a system coupling semi linear parabolic partial differential equations with a parametrically evolving ordinary differential equation. The model incorporates both the direct transmission of the disease via contact between infected individuals and the indirect transmission of the disease via contact of individuals with a contaminated environment and consequently the methodology is applicable to a variety of environmentally sustained diseases. Age dependence can also be introduced. Global existence results and a description of the longtime behavior are provided for the systems. (Received July 20, 2004)