1068-35-317 **Francesco Di Plinio*** (fradipli@indiana.edu), Rawles Hall, 831 E 3rd St, Bloomington, IN 47405. *Time-dependent attractors for equations of mathematical physics.*

I will describe the framework of attractors in time-dependent spaces introduced in the article "Time-dependent attractor for the oscillon equation", joint work with Gregory S. Duane and Roger Temam, published on DCDS-A 29 (1), 2011. The oscillon equation, arising from a model of relativistic mechanics is a nonlinear wave equation with time-dependent (and possibly singular) speed of propagation. The explicit time-dependence of the phase space allows us to deal with the nonautonomous term acting at a functional level. I will compare our framework to the preexisting notions of uniform and pullback attractor, with particular emphasis on uniqueness questions and on the finite-dimensional reduction principle. (Received January 20, 2011)