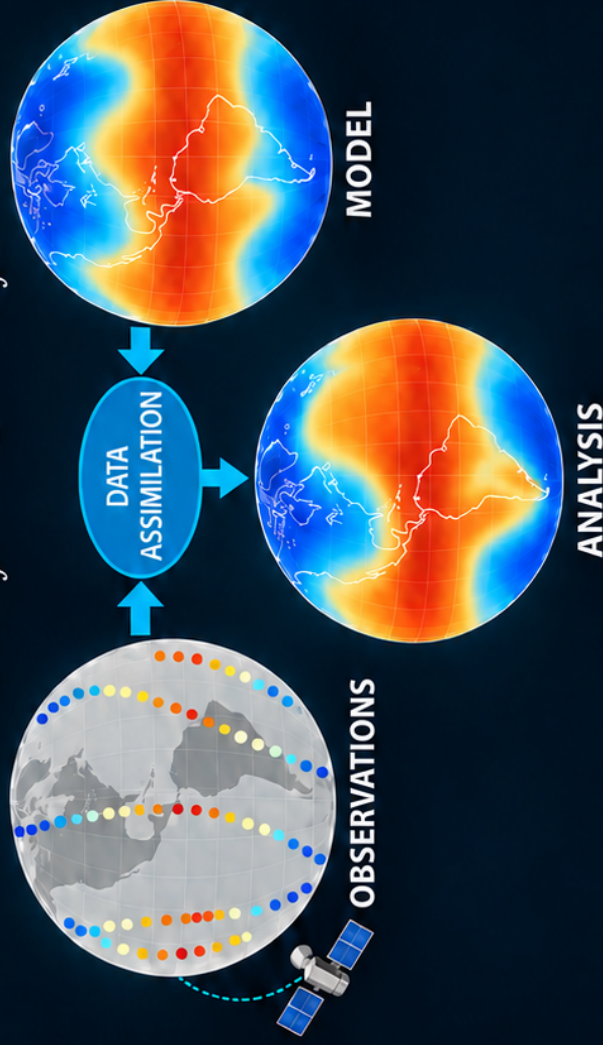


SPRING SEMESTER 2027

COMPUTATIONAL ASPECTS OF DATA ASSIMILATION

ISC 4309/5308 (3 cr) | Prof. Hristo Chipilski

$$x_a = x_f + K(y - Hx_f)$$



PREREQUISITES: Applied Probability, Statistics and Linear Algebra, Scientific Programming OR Instructor Permission (email hchipilski@fsu.edu)

Data assimilation methods combine numerical models and observations to obtain the best possible representation of a dynamical system. This course aims to build a robust theoretical foundation in the subject and explore some of the computational challenges in big data applications. Students will become familiar with classical ensemble and variational methods, learn about nonlinear techniques such as the particle filter, and appreciate how the field has been recently influenced by the ongoing revolution in artificial intelligence. They will also gain hands-on experience by implementing their own algorithms and completing a final project on a preferred research topic.

SPRING SEMESTER 2027 • TR 9:45–11:00 • DSL 152