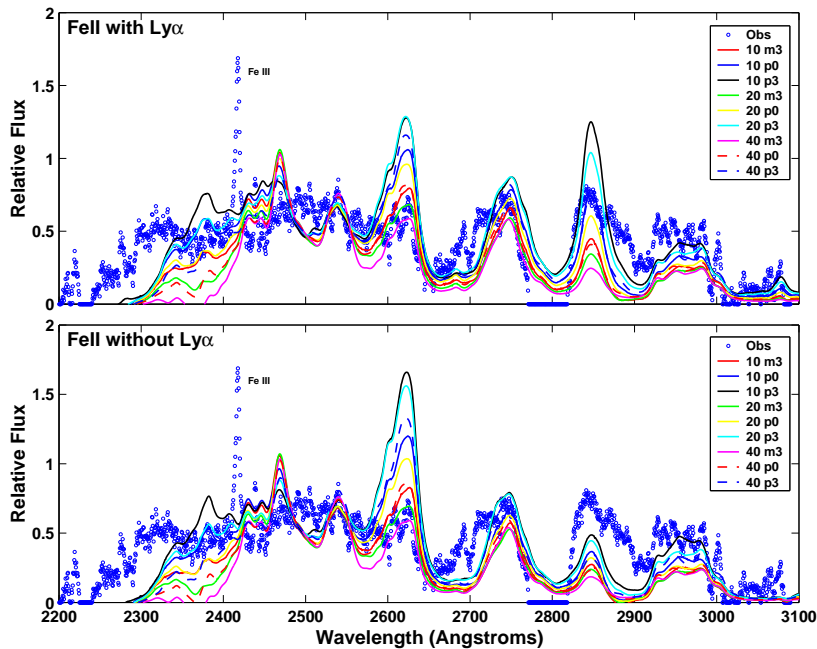


Observation & Modeling: Emission spectra of Fe I - III in active galaxy 1 Zwicky 1. (Sigut, Pradhan, Nahar 2004)



- **Blue** - Observation; **Curves** - Various Models with 1000 energy levels, millions of transitions
- With (top) and without (bottom) Lyman-alpha fluorescent excitation of Fe II by recombining H-atoms. The models reproduce many of the observed features, but discrepancies indicate need for more accurate calculations.

Ref: "Theoretical Fe I/II/III Emission-Line Strengths from Active Galactic Nuclei with Broad-Line Regions", T.A.A. Sigut, Anil K. Pradhan, Sultana N. Nahar, *Astrophys. J.* 611, 81 (2004)