



What don't we know about first and
second generation star formation?

Simon Glover (AIP & KITP)

- Known knowns - what we know we know
- Known unknowns - what we know we don't know
- Unknown unknowns - what we don't know we don't know

Some known unknowns...

- Can we ignore magnetic fields?
- Is energy input from decaying / annihilating DM important?
- What regulates accretion onto Pop. III protostars?
- How many stars form per dark matter halo? How does this depend on M, z ?

- Is HD cooling important?
- Can HII regions from Pop. III stars be trapped locally?
- How efficient is metal mixing in Pop. III supernova remnants?
- How much dust do Pop. III supernovae form, and what is its nature?
- How is the dust distributed w.r.t. the metals?
- Can we test any of this observationally?