Topics to be covered in ARA&A article, with working title:

“Observations of Protoplanetary Disk Structures”.

Below is my basic outline for the review article. The overlap and logical flow are not really well established at this point, so there will certainly be modifications in the order of presenting these issues (and indeed I expect some topical adjustments as necessary). I am making every effort to focus the discussion on substantive changes in the field that have happened in the past ~5 years, well after the last observational review on the subject in ARA&A (by Williams & Cieza). This means that almost all of the discussion will be driven by spatially resolved measurements. Given what is going on the field right now, I would expect that probably about 50% of the review will be focused on Section 4, accordingly with much of the discussion in all sections tied back to the key points explained there.

1. Introduction
    - Big picture overview: initial conditions, planet formation, creating planetesimals, influence on early planetary system evolution (accretion, dynamical effects)
    - Lay out key questions: the distributions of disk structures and their dependence on environmental and/or host properties
    - Brief overview of the important observables: high resolution measurements of scattered light, molecular line emission, and (sub)millimeter thermal continuum
    - Layout of review

2. Coarse demographics:
    - Continuum luminosity evolution (and environmental dependence, including multiplicity)
    - Dust disk sizes (and implications)
    - Line emission (detection statistics)

3. Fundamental properties:
    - Methodologies for (gas) mass estimation
    - Thermal structure: resolved line emission, snowlines
    - Turbulence: line widths, vertical dust distribution, B-fields + limitations
    - Toward gas densities (ideas, complications + advantages from chemistry, information + complications from continuum)

4. Substructures:
    - Basic physical concepts (i.e., pressure variation mechanisms, trapping, etc.)
    - Transition disks:
        - Radial pressure bump (grain size / wavelength dependence, gas)
        - Azimuthal asymmetries (incl vortices)
        - Increasing complexity at smaller scales

- Variability implies substructures on very small scales:
    - Spitzer, K2, ground-based types of variations and hypothesized explanations
    - Scattered light variations and other potential diagnostics (molecular line)
- “Normal” disks:
    - Gaps and rings
    - Spiral structures
    - Basic behaviors (symmetry or not, amplitudes, scales, prevalence, host mass dependence, links to transition disks)
    - High optical depths?: how should we interpret emission spectrum?
        - Implications for planetesimal formation

5. Conclusions:
    - Try to synthesize ideas in the context of latest data (i.e., substructures)
    - Suggestions for field-scale directions: emphasis for ~10-year time horizon