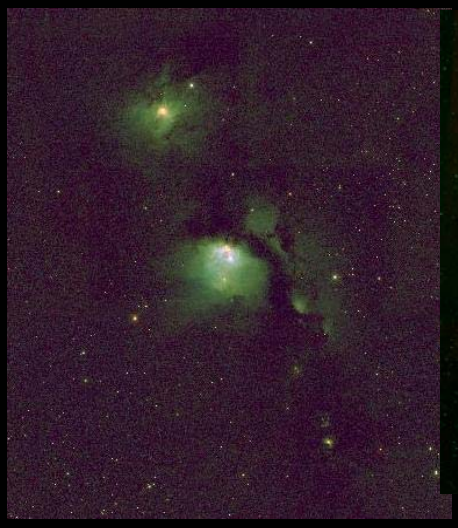
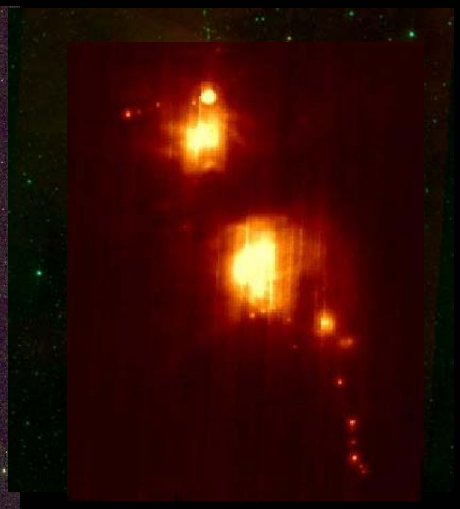
James Muzerolle

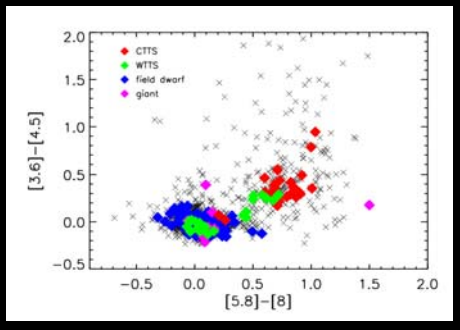
- embedded star formation region in L1630, Orion B molecular cloud
- t ~ 1 Myr
- hundreds of PMS stars, most massive members ~B1-2
- excellent laboratory for studying early protostellar and disk evolution
- IRAC/MIPS maps cover ~1 sq. degree

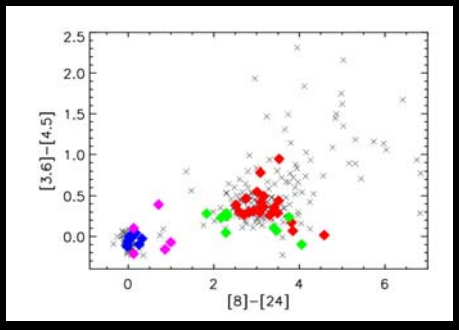


SDSS *gri* mosaic



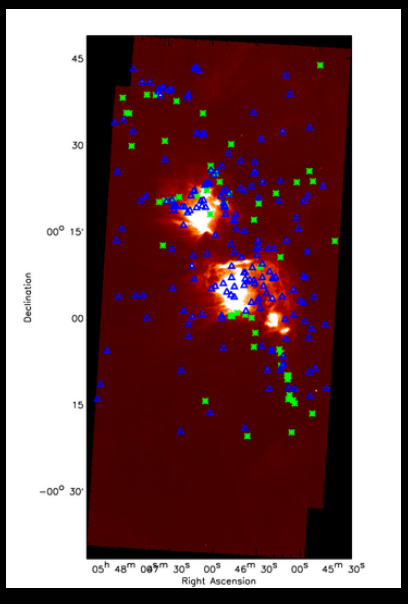
MIPS 70 μm

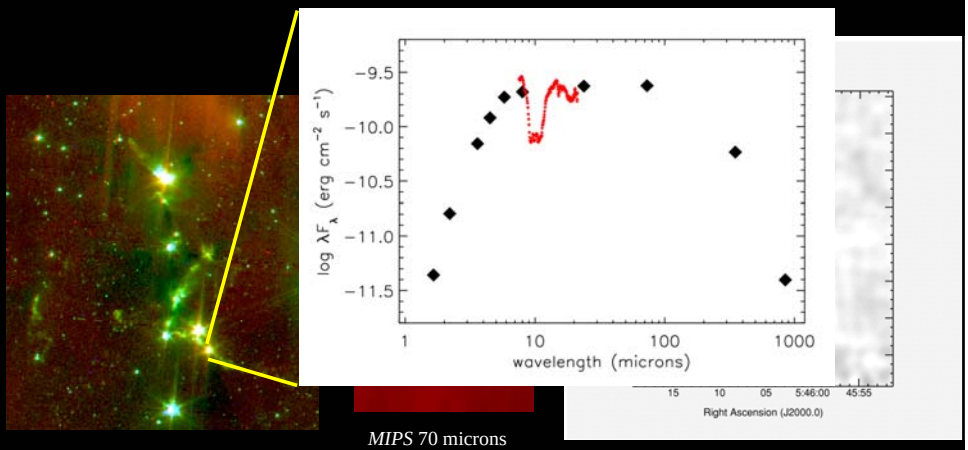




- disk, envelope sources occupy distinct loci
- contamination from AGB, AGN, only few %

- ~50 Class I, 200 Class II
- protostars arranged in linear structures
- Class II more widely distributed

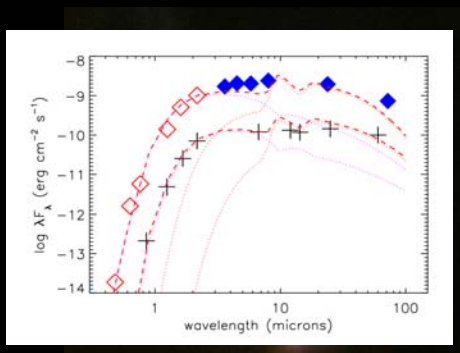


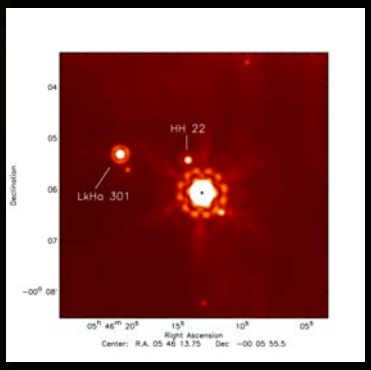


IRAC 3.6, 4.5, 8 microns

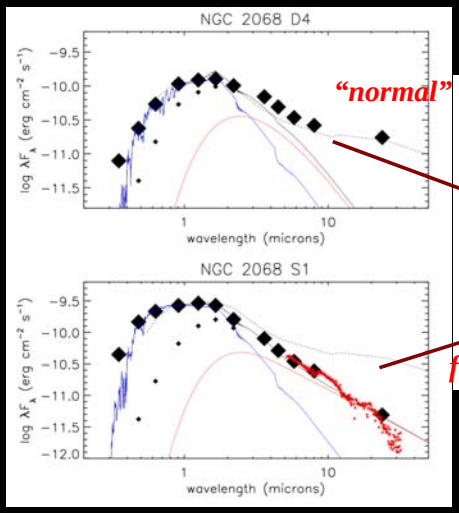
MIPS 70 microns

SCUBA 850 microns

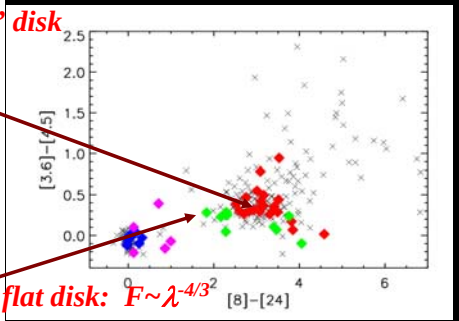




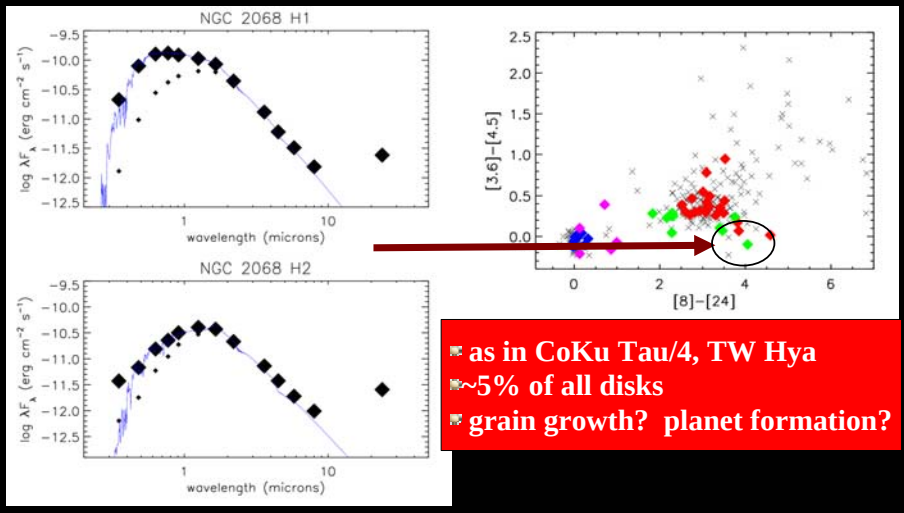
- L_{bol} increased from 3 – 44 L_{sun}
- accretion disk + envelope
- EXor??



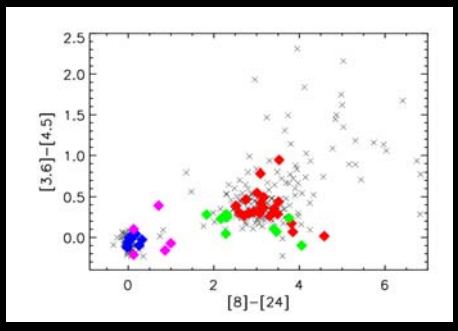
"normal" disk



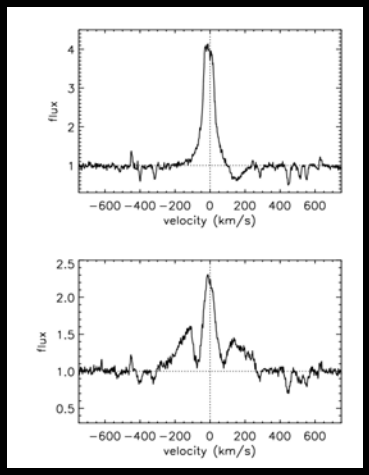
flat disk: $F \sim \lambda^{-4/3}$



- as in CoKu Tau/4, TW Hya
- ~5% of all disks
- grain growth? planet formation?



- usual accretion criterion at K7:
  EW(Hα) > 10 A
- some exhibit strong IR excess



- full range of protostellar and circumstellar disk behavior on display in NGC 2068/2071, often within < 1 pc
- Class I objects associated with dense gas, mostly distributed in linear structures
- at t~1 Myr, Class II objects show a surprisingly wide range of properties, including dust settling and inner disk clearing
  - age not the only factor in disk evolution! initial conditions more important??

- etc