

# ASPEN 2003

- Particularly valuable meeting
  - Brought together source/expt<sup>1</sup> people from ground and space communities
  - Reviewed wide range of research aimed at the detection of GW over a wider frequency range
  - Heard about NASA funding for LISA and potential for favourable NSF budget
  - Heard about EGO the new European overseeing VIRGO and future European detectors

# Some Areas Discussed

- Range of black hole, neutron star sources, over a vast frequency range
- Interesting questions remaining on existence of BHs in the range of a few hundred  $M_{\text{sun}}$
- Need for detectors to cover frequency range between LISA and LIGO (DECIGO?) and at higher frequencies (concentric spheres/cylinders?)
- Need for detectors of higher sensitivity

# Higher Sensitivity 1

- Move towards low temperature - Cryogenic systems now being implemented with CLIO prototype (100m) in Japan
- QND/squeezing progress very significant
- Material research for test masses etc providing a number of ways forward eg. Sapphire, silicon, and  $\text{CaF}_2$  at low temperature. Recent mechanical loss measurements on silica are arousing much interest.
- Research in low loss coatings still critical

# Higher Sensitivity 2

- Availability of non-transmissive optics - low loss gratings - very important step for high frequency interferometers which need very high power
- Leads to possibility of relatively low cost hf interferometers based on silicon mirrors and grating technology

# Aspen – next year

- Could be a continuation of this meeting as significant progress is expected in most areas
- Ideas to Syd most welcome.