Tianlai Processing & Archive Center
"Data Analysis Center" prefered name

Albert Stebbins - March 12, 2015

Transporting /Securing the data

Xinjiang $\Longrightarrow$ Beijing $\Longleftrightarrow$ Fermilab

◆ **L0** data - all (18,528) visibilities sampled @ 1 Hz. How many copies? Frame rate may be reduced.

  ◆ two copies in geographically distinct location, Beijing/Fermilab?

  ◆ can we afford it?

    ◇ 1.5PB/year x 1 yr @ \$0.05/GB =\$75k + infrastructure (power + building + support) w/ no redundancy

    ◇ RAID? What level?

    ◇ recycled equipment? \$75k within scope of internal Fermilab funding (LDRD)

    ◇ do we need a high performance system (I/O probably limiting factor in processing)

    ◇ what is needed value of (lowest level data processing speed) / (data taking speed)?

◆ **How is data transported/stored?**

  ◆ ship hard drives?

  ◆ do we recycle hard drives or just plug them in and leave them?

  ◆ we do have a 50 tape robot - but I/O is much slower and capacity not sufficient (~50TB)

◆ **lower level data much smaller and "easy" and could be stored on tape robot.**

  ◆ reduce frame rate below 1Hz

  ◆ non-redundant visibilities **L0** $\div$ 96 $\cong$ 16TB/year

  ◆ average sidereal day **L0** $\times \frac{\text{year}}{366} \cong$ 4TB

    ◇ this is the data set from which almost all science is done

◆ **what data is to be made public?**