



Summer 2012 Schema and Queries

Kian-Tat Lim

DM System Architect

LSST All Hands Meeting

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**ALL
HANDS
MEETING**



MySQL server lsst-db.ncsa.illinois.edu

Database `daues_S12_sdss_u_s2012prod_sd1000`

- Source (single frame measurements)
- GoodSeeingSource (coadd detections)
- GoodSeeingForcedSource (forced photometry measurements)
- RefObject (Annis *et al.* catalog)
- RefSrcMatch (cross-match with RefObject)
- RefGoodSeeingSrcMatch (same with coadd detections)
- Science_Ccd_Exposure (single frame calibration data)

Source

- **source**, **scienceCcdExposureId**, ra, decl, x, y,
psf/ap/model/instFlux+Sigma, shapelxx/xy/yy, flag*

GoodSeeingForcedSource

- **goodSeeingSourceId**, **scienceCcdExposureId**, psf/apFlux+Sigma

RefSrcMatch

- **sourceId**, **refObjectId**, refRa, refDecl, nSrcMatches

RefGoodSeeingSrcMatch

- **goodSeeingSourceId**, nSrcMatches

Science_Ccd_Exposure

- **run**, **camcol**, **field**, **filterName**, fluxMag0, fluxMag0Sigma



Photometry

- `scisql_dnToAbMag`, `scisql_dnToAbMagSigma`

Angular Distance

- `scisql_angSep`

Statistics

- `scisql_median`, `scisql_percentile`

HTM Indexing

Sample Query



```
SELECT sce.run, sce.camcol, sce.field, sce.filterName,
       scisql_dnToAbMag(cfs.psfFlux, sce.fluxMag0) AS forcedPsfMag,
       scisql_dnToAbMagSigma(cfs.psfFlux, cfs.psfFluxSigma, sce.fluxMag0, sce.fluxMag0Sigma) AS forcedPsfMagErr,
       scisql_dnToAbMag(s.psfFlux, sce.fluxMag0) AS psfMag,
       scisql_dnToAbMagSigma(s.psfFlux, s.psfFluxSigma, sce.fluxMag0, sce.fluxMag0Sigma) AS psfMagErr,
       rsm.refObjectId, rsm.refRa, rsm.refDecl
FROM daues_S12_sdss_u_s2012prod_sd1000.GoodSeeingSource AS cs
JOIN daues_S12_sdss_u_s2012prod_sd1000.GoodSeeingForcedSource AS cfs
  ON (cfs.goodSeeingSourceId = cs.goodSeeingSourceId)
JOIN daues_S12_sdss_u_s2012prod_sd1000.RefGoodSeeingSrcMatch AS crsm
  ON (crsm.goodSeeingSourceId = cs.goodSeeingSourceId)
JOIN daues_S12_sdss_u_s2012prod_sd1000.RefObject AS cro
  ON (cro.refObjectId = crsm.refObjectId)
JOIN daues_S12_sdss_u_s2012prod_sd1000.Source AS s
  ON (s.scienceCcdExposureId = cfs.scienceCcdExposureId)
JOIN daues_S12_sdss_u_s2012prod_sd1000.Science_Ccd_Exposure AS sce
  ON (sce.scienceCcdExposureId = cfs.scienceCcdExposureId)
JOIN daues_S12_sdss_u_s2012prod_sd1000.RefSrcMatch AS rsm
  ON (rsm.sourceId = s.sourceId AND rsm.refObjectId = cro.refObjectId AND rsm.refObjectId=crsm.refObjectId)
WHERE crsm.nSrcMatches = 1 AND rsm.nSrcMatches = 1 AND cro.isStar = 1
  AND NOT (s.flagNegative | s.flagPixEdge | s.flagPixSaturAny | s.flagPixSaturCen | s.flagBadApFlux |
s.flagBadPsfFlux)
  AND NOT (cfs.flagNegative | cfs.flagPixEdge | cfs.flagPixSaturAny | cfs.flagPixSaturCen | cfs.flagBadApFlux |
cfs.flagBadPsfFlux);
```