Data Mining the Optically Variable Sky since 1950
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- Harness the long temporal & huge sky coverage of historical optical surveys
- Combine & compare USNO-B and SDSS-III DR9 photometry of point sources
- Careful recalibration of USNO-B; minimise systematic error & spurious sources
- Publicly available, multi-epoch photometric catalogue of 45 million stars and quasars
  - 5 optical bands; 2 epochs per band; 1 day $< \Delta t < 60$ yrs
  - areal coverage of DR9 footprint (1/3 of the sky)
  - $14 < m < 20$; accuracy $< 0.1$ mag
  - 250,000 variables ($> 4\sigma$); $0.2$ mag $< \Delta m < 6$ mag
  (mostly uncatalogued)

- Statistical analysis of large classes of variables (QSOs, RR Lyr, Miras)
- Discovery & understanding of outbursts from rare objects (dwarf novae, LBVs, R CrB)
- Explore new parameters in luminosity-duration space
- Legacy value as accurate historical photometric archive

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