­­­Phase C D3.5.2: Lasair Version 6



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| **Project Acronym** | LUSC-C |
| **Project Title** | UK Involvement in the Legacy Survey of Space and Time |
| **Document Number** | LUSC-C-13 |

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| **Dissemination level** | Public |

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| **Due Date** | | 30/APR/24 | **Submission Date** | 03/MAY/24 |
| **Version** | | 0.2 | **Status** | Draft |
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| **Deliverable Description** | This document is a cover note to accompany the LSST:UK Phase C deliverable D3.5.2 “Lasair Version 6” from the Phase C Workpackage WP3.5 “Lasair: the UK’s community broker”. D3.5.2 is a prototype of Lasair running on LSST simulated alert data supplied by the Vera C. Rubin Observatory. This prototype LSST alert broker is located at <https://lasair-lsst.lsst.ac.uk/> and all data is simulated. | | | |
| **­­­Notes on Deliverable (details of scope, any deviation from the plan, and testing/ validation steps undertaken)** | This latest version of Lasair contains the following major improvements.   1. Gravitational wave skymaps and candidates. Example [here](https://lasair-lsst.lsst.ac.uk/mma_watchmaps/12/) 2. Access to the Rubin Science Platform from Lasair for users with appropriate credentials. Example [here](https://lasair-lsst.lsst.ac.uk/objects/1998401965901479990/)   Other improvements include:   1. Ingested DP0.2 for Lasair 6 ([link](https://github.com/lsst-uk/lasair-lsst/blob/main/utility/DP02/README.md)) 2. Forced and real photometry in 6 bands. Example [here](https://lasair-lsst.lsst.ac.uk/objects/1998401965901479990/) 3. New lightcurve features (2D time/wavelength) (Appendix A of [the Lasair paper](https://arxiv.org/abs/2404.08315)) 4. Start/Stop rebuilt as system services ([link](https://github.com/lsst-uk/lasair-lsst/blob/main/deploy/README.md#starting-and-stopping)) 5. Refactored and cleaner filter stage ([link](https://github.com/lsst-uk/lasair-lsst/pull/119)) 6. Rebuilt the deployment system with Terraform ([link](https://github.com/lsst-uk/lasair-lsst/tree/main/deploy)) 7. Much improved unit test coverage 8. Asynchronous database ingest ([link](https://github.com/lsst-uk/lasair-lsst/blob/main/pipeline/ingest/ingest.py)) 9. Cutouts stored in Cassandra-NoSQL, not filesystem ([link](https://github.com/lsst-uk/lasair-lsst/blob/main/pipeline/ingest/ingest.py)) (Note: comment at top of code needs revision) | | | |