# OSSR Onboarding - Integration #37

## Onboarding: gLike

04/29/2021 10:34 PM - Jutta Schnabel

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|---|---|---|---|
| **Status:** | In Progress | **Start date:** | 04/14/2021 |
| **Priority:** | Normal | **Due date:** | |
| **Assignee:** | Jutta Schnabel | **% Done:** | 70% |
| **Category:** | | **Estimated time:** | 0.00 hour |
| **Target version:** | OSSR primer | | |
| **Documentation:** | https://github.com/javierrico/gLike#readme | **Video recording:** | https://www.youtube.com/watch?v=I-LPBCl0CXY |
| **Meeting contribution:** | https://indico.in2p3.fr/event/23753/contributions/94468/ | **Zenodo entry:** | https://zenodo.org/record/5888553 |

### Description

gLike is a general-purpose ROOT-based code framework for the numerical maximization of joint likelihood functions.

The joint likelihood function has one free parameter (named g) and as many nuisance parameters as wanted, which will be profiled in the maximization process.

Follows a non-exhaustive list of examples where gLike is useful (in order of increasingly complexity):

- Estimating the number of signal events (with uncertainties) in a dataset whose background content is in turn estimated from an independent measurement in a signal-free control-region.
- Same as before, but considering in addition a systematic uncertainty in the estimation of the background.
- Estimating the intensity of a steady source of signal particles in the presence of background particles from datasets obtained under different experimental conditions.
- Same as before, but each dataset actually comes from a different instrument and in different data format.
- Estimating the dark matter annihilation cross-section combining observations of dwarf spheroidal galaxies by different ground-based gamma-ray telescopes, satellite gamma-ray detectors, neutrino telescopes, ....
- Estimating the energy scale of quantum gravity by combining observations of fast gamma-ray flares observed by different ground-based gamma-ray telescopes.

**Related issues:**

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|---|---|
| Related to ESFRI: CTA - Product #143: Software: gLike | **New** |

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### History

**#1 - 04/29/2021 10:34 PM - Jutta Schnabel**

*- File Survey_glike.yml added*

**#2 - 04/29/2021 10:35 PM - Jutta Schnabel**

*- Status changed from New to In Progress*

**#3 - 06/22/2021 05:02 PM - Jutta Schnabel**

*- Meeting contribution changed from https://indico.in2p3.fr/event/23753/#1-onboarding-glike-likelihood to https://indico.in2p3.fr/event/23753/contributions/94468/*

**#4 - 07/09/2021 08:42 AM - Anonymous**

*- Description updated*

**#5 - 12/03/2021 09:24 AM - Anonymous**

*- Documentation set to https://github.com/javierrico/gLike#readme*

**#6 - 12/03/2021 10:36 AM - Cosimo Nigro**

*- Description updated*

**#7 - 12/03/2021 10:48 AM - Cosimo Nigro**

*- Description updated*

**#8 - 01/28/2022 10:11 AM - Jutta Schnabel**

*- Status changed from In Progress to Closed*


**#9 - 01/28/2022 10:14 AM - Thomas Vuillaume**

onboarded:
https://doi.org/10.5281/zenodo.5888553


**#10 - 02/23/2022 11:27 AM - Jutta Schnabel**

*- Related to Product #143: Software: gLike added*


**#11 - 02/23/2022 11:30 AM - Jutta Schnabel**

*- Zenodo entry set to https://zenodo.org/record/5888553*

*- Video recording set to https://www.youtube.com/watch?v=I-LPBCl0CXY*

*- Assignee set to Jutta Schnabel*

*- Status changed from Closed to In Progress*

*- Description updated*

*- Tags set to OSSR Onboarding, CTA*


## Files

| | | | |
|---|---|---|---|
| Survey_glike.yml | 1.28 KB | 04/29/2021 | Jutta Schnabel |