

# VERITAS GADF



2021, Sep 29

**Gernot Maier & Tobias Kleiner (DESY)**

**Amanda Weinstein & Alicia Chromey (ISU)**

# VERITAS & GADF: Status and plans

- **Status:**

- successful demonstration of analysis of VERITAS data in context of *Towards open and reproducible multi-instrument analysis in gamma-ray astronomy paper*
- not used for any scientific publication (yet)

- **Ongoing / plans:**

- validation effort of interfaces VERITAS tools / DL3 / science tools (point-like; full enclosure)
- tests for large-scale archival analysis of all VERITAS data (all epochs of data) —> long-term data preservation

# VERITAS & GADF: Open issues

- **Technical points:**
  - time-dependence of IRFs during an observation run (splitting?)
  - event classes and corresponding IRFs
  - statistical/systematic errors on IRFs
  - documentation improvement (will provide suggestions)
  - provenance information
  - extensions (additional columns, ..)
- **GADF management (most important)**
  - **milestones, directions, future extensions**
  - **release policy for GADF (last release 2018?)**
  - **important for application as long-term archival format**
  - **related to formation of a responsible group for change/version control**

# Backup

# Event classes

- Separate event classes with divergent response functions (e.g. different PSF)
- Add hadron-dominated event classes
- Better constrain background model, normalization
- Multiple classes can be used
  - to effectively add a new dimension (e.g. MSW, MSL) to fit
  - to derive a complex background model
  - valuable for extended source analyses
- ongoing tests (Weinstein, Chromey) with event classes, determined by ranges in gamma-hadron separation parameters