## GammaLib - Action \#1124

## implement region rotation

01/30/2014 10:17 AM - Kosack Karl

| Status: | New | Start date: | $01 / 30 / 2014$ |
| :--- | :--- | :--- | :--- |
| Priority: | Normal | Due date: |  |
| Assigned To: |  | \% Done: | $0 \%$ |
| Category: |  | Estimated time: | 0.00 hour |
| Target version: |  |  |  |

## Description

to implement a correct reflected-region background method, GSkyRegions must have a rotation angle implemented, so that arbitrary regions end up in the correct orientation on the sky.

The suggested way to implement this is to add:
@
GSkyDir m_rotation_point;
double m_rotation_angle;
GSkyDir transform_to_region_system( GSkyDir \&dir );
GSkyDir transform_from_region_system( GSkyDir \&dir);
to the base GSkyRegion class. The transformation functions apply the rotation to any point for the current region, and should be applied in @contains() etc., before checking if a coordinate is inside a region. This way the mathematical definition of the regions does not need to take into account rotation. E.g. a rectangle region can be assumed to be aligned to the $\mathrm{X}-\mathrm{Y}$ axis, and rotation is taken into account by the coordinate transformation.

## History

\#1 - 02/17/2014 10:18 PM - Knödlseder Jürgen

- Target version set to 2nd coding sprint


## \#2 - 07/19/2014 02:10 AM - Knödlseder Jürgen

- Target version deleted (2nd coding sprint)


## \#3-03/11/2016 06:08 PM - Martin Pierrick

- Parent task deleted (\#1044)

