

goflib

April 16, 2023

Abstract

Library of Fortran 90 utilities needed for Extended Source Analysis Software (ESAS) related tasks. Includes subprogram emanom for determining if EMOS chips are in an anomalous state.

1 Instruments/Modes

Instrument	Mode
EPIC	IMAGING, TIMING

2 Use

pipeline processing	yes
interactive analysis	yes

3 Description

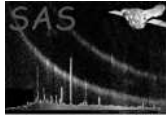
3.1 Introduction

This library consists of a series of Fortran 90 modules useful for the development of SAS tasks. Each module is described in a separate section below. Each module is contained in a separate file and will be compiled separately. The resulting object files will be combined into a single library file.

Goflib is divided into seven submodules defined broadly as (i) constant calculators, (ii) coordinate transformations, (iii) I/O, (iv) matrix operations, (v) general utilities, and (vi) Jet Propulsion Lab Ephemeris routines (JPLEPHEM IDL routines converted to f95).

3.2 Module index

- Section ??: **emanom**: Determines whether EPIC MOS chips are in an anomalous state.
- Section ??: **constants**: Simple set of double precision constants for time and coordinates.



- Section `coords`: Simple set of coordinate transformation subroutines.
- Section `io`: Simple set of SAS DAL-accessing I/O routines specialized for ESAS routines.
- Section `matrix`: Set of matrix-manipulation, probability functions, best fit functions, etc.
- Section `utils`: Binning, smoothing, ascii text-manipulation, QDP file production functions.
- Section `jplephemeris`: Functions to manipulate the JPL ephemeris file JPLEPH.405, IDL rewritten to f95.

4 Module descriptions

Module name: `constants`

Module name: `coords`

Module name: `coords`

5 Algorithm

6 Comments

-

References