# RA disp

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# Chapter 1

# Introduction

This repo hosts some tools for radio astronomy signal processing. This includes both stand-alone tools as well as codes to explore concepts. There is no guarantee that the codes will work, and eveything here is experimental !

## 1.1 Hosted codes

As of now, the only code is a dada2spec tool which is under development.

# Chapter 2

# File Index

## 2.1 File List

Here is a list of all documented files with brief descriptions:

# Chapter 3

# File Documentation

## 3.1 dada2spec.c File Reference

Reads a psrdada file and generates spectra out of them. The number of FFT bins and required time averaging can be specified.

```
#include <stdio.h>
#include <stddef.h>
#include <unistd.h>
#include <stdlib.h>
#include <string.h>
#include <stdbool.h>
#include <signal.h>
```

### Functions

- void **interrupt_handler** (int dummy)
- int **findinheader** (const char *hdr_buf, const char *hdr_name, double *val)
- void **print_acq_usage** (char *const argv[])
- int **main** (int argc, char *argv[])

### 3.1.1 Detailed Description

Reads a psrdada file and generates spectra out of them. The number of FFT bins and required time averaging can be specified.

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**Version**

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**Date**

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## 3.2 pipe_spec_plplot.c File Reference

This is a sample code.

```
#include <stdio.h>
#include <math.h>
#include <unistd.h>
#include <plplot/plplotP.h>
#include <fftw3.h>
```

### Macros

- #define **NFFT** 4096

### Functions

- void **linspace** (double ∗arra, double low_value, double high_value, int N_points)
- double **array_min** (double ∗in_array, int N_points)
- double **array_max** (double ∗in_array, int N_points)
- int **main** ()

### 3.2.1 Detailed Description

This is a sample code.

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