

**Figure 1.** Optical spectral energy distribution (SED) of NGC 5084 as detected by the 6dF survey and the APO/DIS observations. *Top panel:* 4300-7000 Å spectrum of the central 1.5 arcsec slit (APO/DIS, blue and red channels, in color) and the 6.7 arcsec radius fiber (6dF, black). *Bottom left:* Detail of the H $\gamma$  spectral range (4200 – 4550 Å), showing the core as detected by 6dF and APO/DIS, as well as the North, South, East, and West subregions avoiding the core. See the labels on each spectra. *Bottom right:* Same as previous for the 6400-6800 Å(H $\alpha$ ) range. Vertical shadowed red lines represent the redshifted wavelengths of the typical absorption and emission lines in galaxies (H $\beta$ , OIII, Mg, Na I, H $\alpha$ ), for reference.

Compiled: 05:13 Sunday 15<sup>th</sup> September, 2024 (UTC)  
DRAFT VERSION SUNDAY 15<sup>TH</sup> SEPTEMBER, 2024  
Typeset using L<sup>A</sup>T<sub>E</sub>X **modern** style in AASTeX631

## SAUNAS: III. X-ray Scaling Relations of Diffuse Hot Gas Galactic Halos\*

ALEJANDRO S. BORLAFF<sup>1</sup> AND PAMELA M. MARCUM<sup>2</sup>

<sup>1</sup>*Bay Area Environmental Research Institute, Moffett Field, CA 94035, USA*

<sup>2</sup>*NASA Ames Research Center, Moffett Field, CA 94035, USA*

### ABSTRACT

Put the abstract here.

### 1. BACKGROUND

Here is the intro section (???).

The first sentence in the intro!

The second sentence in the intro (??).

A 3rd sentence in the background. (?)

In Section 1.2.1, we discuss the goal of our project.

By looking at Fig 2 (see 1.2.1)

Here is a comment, see if it changes color like it is supposed to.

#### 1.1. Motivation

The first sentence under motivation. (?)

#### 1.2. more motivation

second sentence under motivation.

Third sentence right here right NOW!!

4th sentence (?)

??

5th sentence here

\* Released on May, 11th, 2023



**Figure 2.** Regions assigned for spectral analysis. *Left panel:* White contours in the left panel represent the  $[2, 3, 5, 7, 10]\sigma$  detection limits in the 0.3–2.0 keV band from Chandra/ACIS. The slit-shaped regions (1.5 arcsec wide) represent the APO/DIS optical spectra, defined to align with the major axis of the galaxy and the major axis of the circumnuclear disk. The circular core region, shown in the zoomed image, has a 3 arcsec radius. The RGB background image was generated using the *gri* observations from Pan-STARRS. *Right:* Close-up view of the core regions, showing the apertures for optical 6dF spectra ( $R = 3.4$  arcsec), and the APO/DIS slit-spectra. The background image represents the flux intensity in the F475W band from HST/WFPC2.

### 1.2.1. Goals

First sentence in this section underneath Goals.

## 2. METHODS

something, something

### 2.1. underneath methods

First sentence in methods section.

*Facilities:* Chandra

*Software:* CIAO, LIRA, VorBin

===== ERROR 6 Package

natbib Warning: There were undefined citations