SICNAP 2025 Internship Report

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1 Introduction

This is a brief report of the tasks completed during the Summer Internship in Computational Nuclear Astrophysics (SICNAP) 2025.

2 Part A: Bash and Linux

Completed all shell tasks including script creation and file editing with Vim. Below are the key actions performed:

- Created directories and managed files with `mkdir`, `ls`, and `rm`
- Used commands like `grep`, `chmod`, `alias`, `date`, and `tar`
- Wrote and executed `.sh` scripts to automate tasks

3 Part B: Python Programming

Practiced data types, control flow, functions, and file handling using Python.

4 Part C: Git and GitHub

Worked with branches, pushed to remote repositories, used stash and branch protection.

5 Part D: LaTeX

This report itself is created using LaTeX. It includes text formatting, equations, tables, and images.

See Table 1 for a summary of tools used during the internship. Figure 1 shows the tools used in this internship.

Table 1: Comparison of Tools Used in SICNAP

Tool	**Use Case**	**Environment**
Bash	File handling, scripting	Git Bash
Python	Programming logic	VS Code
Git	Version control	GitHub
LaTeX	Report writing	Overleaf/VS Code

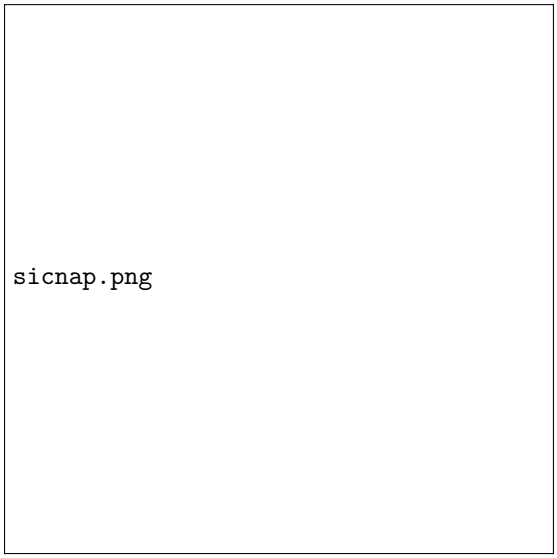

Figure 1: Overview of Tools in SICNAP

Mathematical Equations

This equation uses the `equation` environment:

$$E = mc^2 \tag{1}$$

As shown in Equation 1, energy is proportional to mass.
This pair of equations uses the `align` environment:

$$a^2 + b^2 = c^2 \tag{2}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \tag{3}$$

See Equation 3 for more examples.