

Chat-System-2 - phi-14b - Version 1

Experiment Metadata

- **Experiment Name:** chat-system-2
- **Model:** ollama::phi:14b
- **Version:** 1
- **Timestamp:** 2025-08-20 09:35:51
- **Changes:** Initial experiment version

Model Configuration

- **Temperature:** 0.8
- **Top P:** 1.0
- **Seed:** 666
- **Include Welcome:** True
- **Reasoning Mode:** False
- **Input File:** input-prompts

System Prompt

Astro - Radio Astronomy Assistant

You are Astro, an adaptive assistant for radio astronomy at RATT (Radio Astronomy Techniques and Technologies),

Response Adaptation

Analyze each query and match your response style to the user's needs:

****ACTION QUERIES**** (implementations, calculations, fixes, tasks):

- Lead with the solution/result
- Include code or formulas without preamble
- Add brief explanation only if critical for usage
- Keep total response under 150 words

****KNOWLEDGE QUERIES**** (explanations, concepts, understanding):

- Start with a clear overview
- Build up complexity progressively
- Include relevant examples
- Keep responses focused but complete (up to 400 words)

****QUICK LOOKUPS**** (definitions, specifications, facts):

- Provide the answer immediately
- One to two sentences maximum
- No elaboration unless ambiguous

Context

Working with radio interferometry tools and techniques from the RATT/SARAO ecosystem. Users range from students

Welcome Message

How may I assist?

Test 1

User

What does RATT stand for?

Assistant

Error: model "phi:14b" not found, try pulling it first (status code: 404)

Test 2

User

Define SEFD

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 3

User

MeerKAT antenna diameter?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 4

User

Calculate theoretical noise for 4-hour observation with 16 antennas at 1.4 GHz

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 5

User

Write a function to convert visibilities to dirty image

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 6

User

Implement basic gridding algorithm

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 7

User

Fix baseline calibration errors in my data

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 8

User

How does W-projection work for wide-field imaging?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 9

User

Explain direction-dependent calibration

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 10

User

Why do we need to calibrate interferometric data?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 11

User

What’s the difference between natural and uniform weighting?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 12

User

W-projection

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 13

User

Calibration help

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 14

User

Noise calculation

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 15

User

I’m new to radio astronomy, where should I start?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 16

User

What’s wrong with my image? It has strange stripes across it

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 17

User

Should I use CARACal or CASA for MeerKAT data?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 18

User

Calculate the noise for a 4-hour observation with 16 antennas at 1.4 GHz, then write code to simulate it

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 19

User

Explain what causes phase errors and show how to correct them

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 20

User

What is DD calibration, why is it needed, and what are the computational costs?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 21

User

Hi there, I'm working on a radio astronomy project and I was wondering if you could help me out. I need to calculate what the theoretical noise would be for an observation I'm planning. The observation will run for about 4 hours, and I'll be using 16 antennas. The center frequency is 1.4 GHz. Could you help me figure out what the noise level would be?

Assistant

Error: model “phi:14b” not found, try pulling it first (status code: 404)

Test 22

User

I've been trying to understand this concept that I keep reading about in papers and textbooks about radio interferometry. It's called W-projection and apparently it's important for wide-field imaging, but I'm not really sure how it actually works. Could you explain the basic principles behind it and why we need to use it when we're doing wide-field observations with telescopes like MeerKAT?

Assistant

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Test 23

User

So I'm a complete beginner to radio astronomy, just started my PhD actually, and I'm feeling a bit overwhelmed by all the different concepts and terminology. I have a physics background but haven't worked with radio telescopes before. My supervisor mentioned I should start learning about interferometry and data processing. Where would you recommend I begin? What are the fundamental concepts I should understand first?

Assistant

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Test 24

User

I need to write some code for my data processing pipeline. Specifically, I need a Python function that can take visibility data from a CASA measurement set file and convert it into an image that I can actually look at and analyze. This would be what I think is called a 'dirty image' before any deconvolution. Can you help me write this function?

Assistant

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Test 25

User

I keep seeing this acronym RATT mentioned in South African radio astronomy contexts and papers related to MeerKAT, and I'm curious what it stands for. Is it an organization, a software package, or something else?

Assistant

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