UK Atomic Energy Authority

UKAEA – Jan 30-31 2024

ReMKiT1D Workshop January 2024
Welcome session

Imperial College London

CCFE
CULHAM CENTRE FOR FUSION ENERGY

Engineering and Physical Sciences Research Council

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Welcome to the Jan 2024 ReMKiT1D Workshop!

What	Where
Introduction to the framework Feature overviews Tutorials/Hands-on sessions Demos	Robinson Room for on-site Zoom for online participants
When	**How**
9:30 – 17:00 Jan 30th-31st 2024	VS Code + Docker

Organization

Stefan Mijin

Domain Specialist at UKAEA

Main ReMKiT1D dev

In charge of in-person participants

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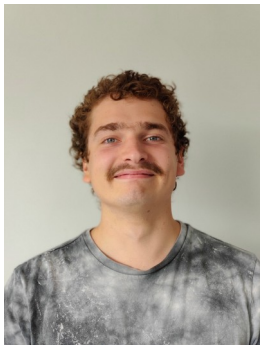

Alfie Adhemar

PhD Student at ICL/UKAEA

Developing anisotropic and multifluid models in ReMKiT1D

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Imperial College London

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Alfie Adhemar

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Massive thanks to all the testers of the Workshop repo!

Aims of the workshop

Publicise the current feature set of ReMKiT1D

Provide training to existing and potential new users of the framework

Identify high priority missing features

Disseminate software design choices that might be useful in other projects

Facilitate communication between developers and users

Workshop schedule

Tue 30th

Time	Session
9:30	Welcome and introduction
10:00	Environment setup check and last-minute troubleshooting
10:30	Coffee break
10:45	Introduction to ReMKiT1D and building our first model
12:00	Lunch break
13:00	Deep-level concepts
14:30	Coffee break
14:45	Variables revisited
16:00	Q&A day 1

Wed 31st

Time	Session
9:30	Electron kinetics in ReMKiT1D
10:45	Coffee break
11:00	Model-bound data in ReMKiT1D
12:00	Lunch break
13:00	CRMs in ReMKiT1D
14:00	Highly composite derivations
15:00	Coffee break
15:15	Demonstration of a full fluid workflow with pre-built wrappers
16:15	Workshop close + Q&A day 2

Workshop structure

- Overview sessions – introducing concepts and features
- Hands-on sessions – going over simplified practical examples together
- Demo sessions – presenting more complicated examples

Accessing the Workshop materials:

- The Workshop GitHub repo: *https://github.com/ukaea/ReMKiT1D-Workshop-2024*
- The ReMKiT1D repo: *https://github.com/ukaea/ReMKiT1D*
- The RMK_Support Python repo: *https://github.com/ukaea/ReMKiT1D-Python*
- The code paper preprint *https://arxiv.org/abs/2307.15458*

Disclaimers

This workshop will not cover every single feature of the framework! There are many examples in the Python repository that make use of various advanced or niche features which are not suited for the format of this workshop

The software itself, while extensively tested, is still likely to contain bugs and missing features. If any issues are encountered, the users are encouraged to raise issues on the relevant repositories