# Field Report on Becoming a Physics Operator

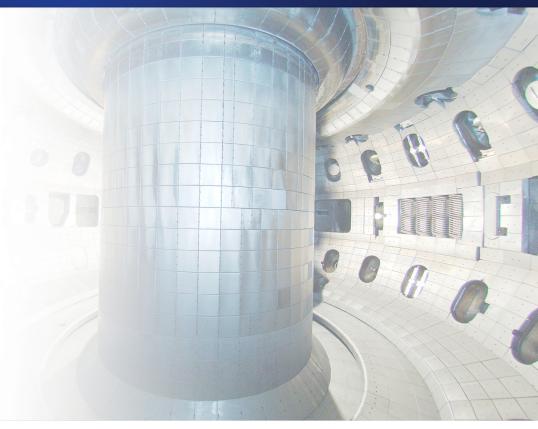
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## Good progress has been made in the last year

- April 2022: Relocation
- May 2022: Beam programmer
  - Introduction 5/4 (Theresa Wilks)
  - Substitute 5/19
  - Main 6/20 -
- October 2022: Physics operator
  - Lecture 10/5 10/27\* (Al Hyatt)
  - Apprentice 10/31 1/23
  - Second 2/1 2/9
  - First during startup 2/23 –

<sup>\*</sup> Lecture notes 50% ready



Research Note 2/5

## A Guide for Physics Operators is being drafted

- Navigation
- Shape
- Equilibrium
- Density
- Gas
- E coil
- Error field
- System
- Responsibilities
- Troubleshooting
- Nomenclature

https://docs.google.com/document/d/1qX9JOP38qgHyOLjnm\$NYcbrEeduuG62NFa0XcYvy5B8/edit?usp=sharing

A Guide for Physics Operators

### A Guide for Physics Operators

J. Yang, W. Choi, R. Maurizio, B. Victor, J. Barr, ...

#### **Preface**

This is a manual for physics operators, who will work mostly using the Plasma Control System (PCS). The PCS code was first written by John Ferron. For a detailed introduction to the PCS, see user's manual written by Mike Walker (link). The majority of this manual is based on the transcript written by Theresa Wilks during her cohort's training sessions with Al Hyatt in February 2020 (link), and is written by the cohort of October 2022.

This manual is organized as follows. In the first section, <u>Navigation</u>, a general overview of PCS is given. The following sections illustrate each category of the PCS. The last three sections, <u>Physics Operator Responsibilities</u>, <u>Troubleshooting</u> and <u>Nomenclature</u>, act as more practical guides for physics operators.



Research Note 3/5

## I am also a Deputy Coordinating Physics Operator:

### Support startup campaign

- Figure out tasks including tests and cleaning
- Find target shots to use for each task
- Perform startup experiments, check radiated power ratio and dl<sub>P</sub>/dt

### Schedule physics operators

- Assign available physics operators to experiments
- Attached to Run Coordinators

### Prepare training material for new physics operators

- Compile memos for physics operators
- Draft a guide to physics operators and get approved by Al



Research Note 4/

## Next challenge is to be reliable enough to be a 1st PO

- April 2022: Relocation
- May 2022: Beam programmer
- October 2022: Physics operator
  - Lecture 10/5 10/27\* (Al Hyatt)
  - Apprentice 10/31 1/23
  - Second 2/1 2/9
  - First during startup 2/23 –
  - First 3/18/2024 –
- Next startup is in 2024
  - From 1/22/2024 to 2/29/2024

#### 20 Weeks Plasma Operations





Research Note 5/5