



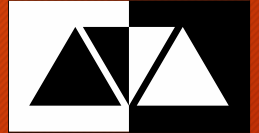
**ACCELERATORS**  
**VALIDATING**  
**ANTIMATTER**  
**PHYSICS**



3<sup>rd</sup> Topical Workshop  
Welcome



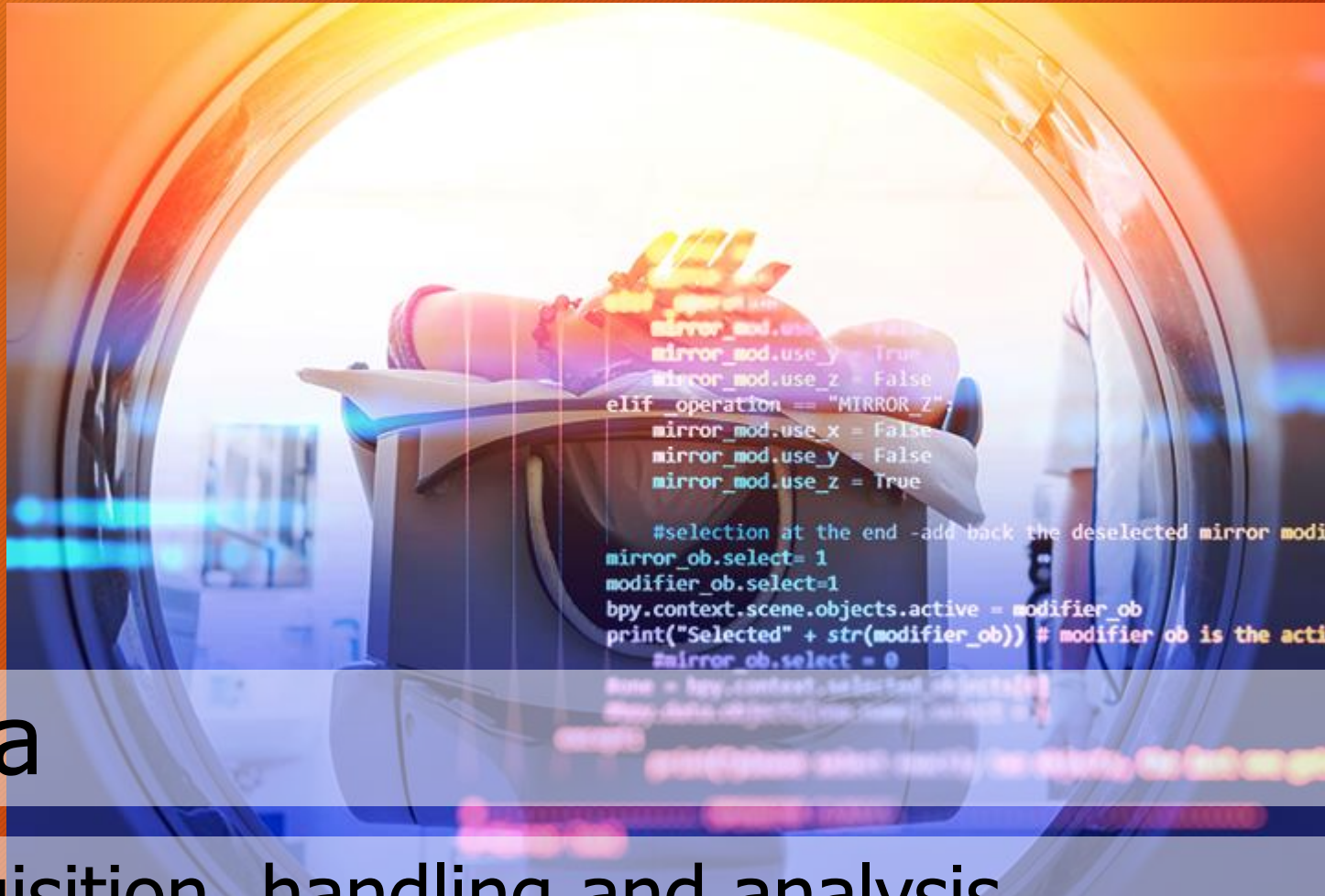
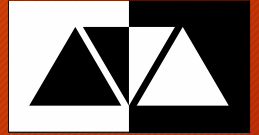
# Overview



- Based on your input and feedback, changed this Topical Workshop into **problem-focused workshop**
- Motivation for efficient machine-experiment interfacing and status quo through **invited talks**
- **Hands-on training** through LabView course by COSYLAB experts later today
- Discussion about **state-of-the-art** and best practice across AVA on 2<sup>nd</sup> day, motivated by work between Adi, Markus and Amit
- **Jointly develop roadmap report** to help wider community.

**Work together - discuss - learn**

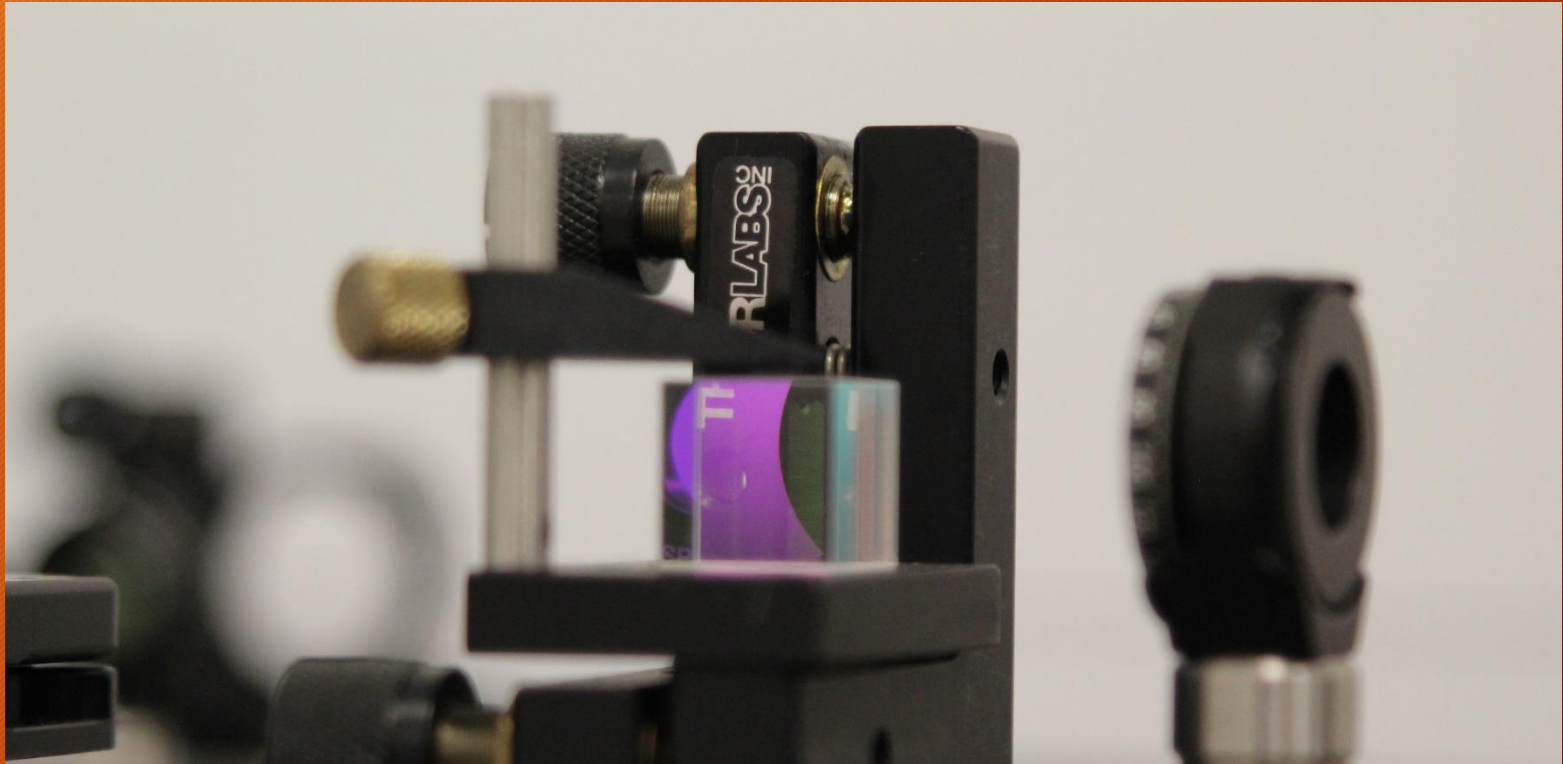
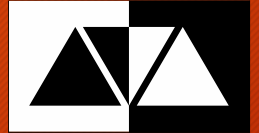
# Challenges



Data

Acquisition, handling and analysis

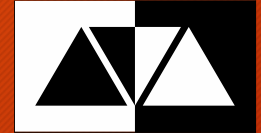
# Diagnostics integration



Diagnostics

Efficient integration and interfacing

# Goals



## Establish where the low energy pbar community stands in terms of

- Control system use for stand-alone experiments
- Data acquisition and read-out systems that are currently used
- Hard/software in use for data analysis
- Transfer protocols in use across AVA

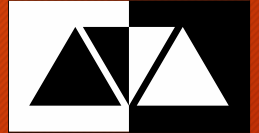
## Explore

- Current capabilities of all of the above - and their limitations
- How these interface/connect with the typical large research facility hard/software
- bottle necks, challenges and (known) past issues
- identify ways to improve on both, the experiment tools and techniques that are used and possibly the machine-side tools and techniques that are used.

## Goal: To establish

- how the machine interfaces with an experiment (in what aspects, e.g. timing, data (beam, temperature, voltages, etc))
- where does data transfer occur - *understand your experiment better!*
- where a smooth transfer is possible and where data conversion is needed
- if there are areas where one would benefit from data exchange, e.g. is there any information that could be fed back to the machine operator from the experiment that would benefit overall operation and/or the experiment - think of beam tuning, beam injection, etc.

# Goals



## Understand

- the current state of the art on the example of the/selected AVA experiments
- best practice across participants
- known issues and challenges (and how they were overcome)
- opportunities for improving the experiment-machine interface with options to be considered for future experiments.

Write this up as a **roadmap report**.

This will then benefit the wider low energy ion community.

**Work together - discuss - learn**