

- CYBERBEAM -

- A BEAM INSTRUMENTATION VIDEO GAME -

- WHY A VIDEO GAME? -

The goal behind the development of this video game is to illustrate in a simple, interactive, and entertaining way, the role of **beam instrumentation in particle colliders**.

The game is going to be available for everyone at the Beam Instrumentation (BI) Group stand during the **CERN Open Days 2019**, which are being held between the 14th and 15th September.



- THE GAME DESIGNER -



Hello there!

My name is **Adrian Navarro Perez** and I have **developed this game** as part of the **CERN Summer Student Programme 2019**.

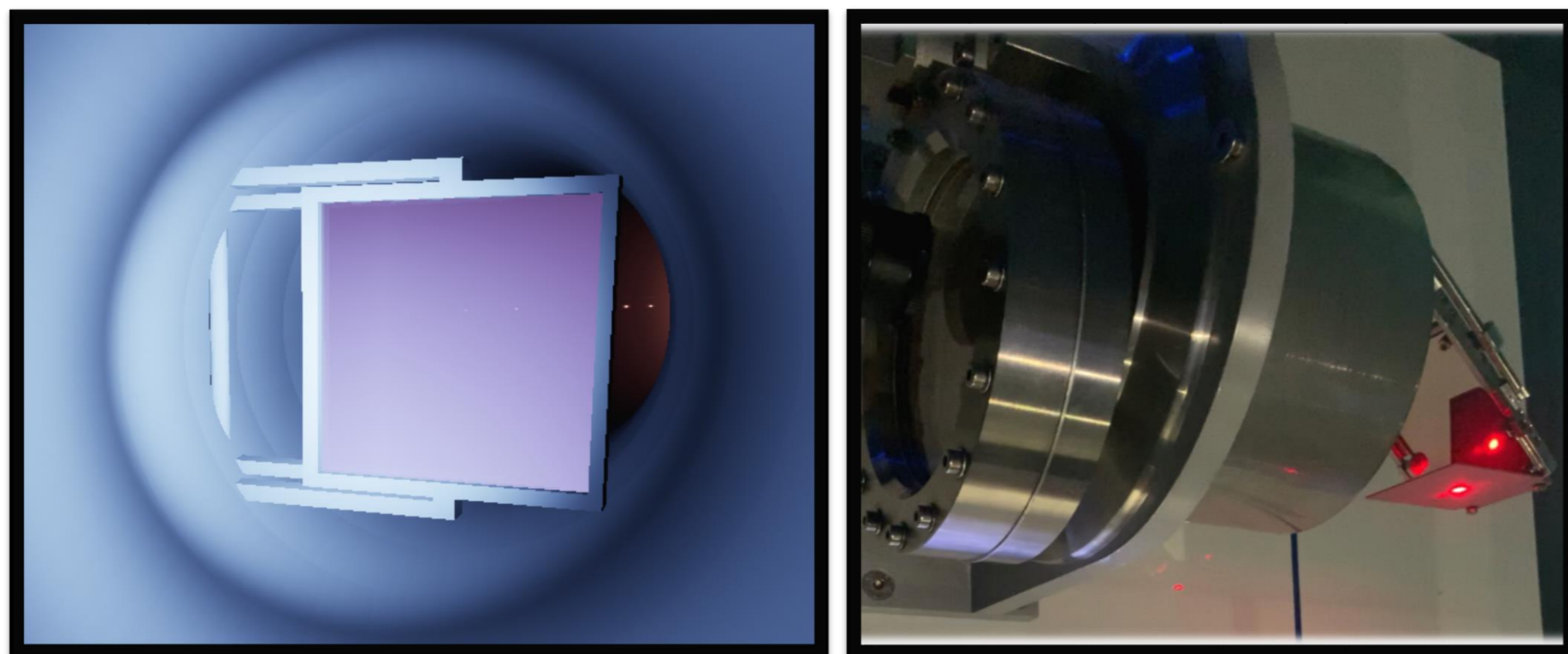
I hope that you enjoy my game as much as I did developing it!

Follow my social media! It helps me growing more and more in the industry



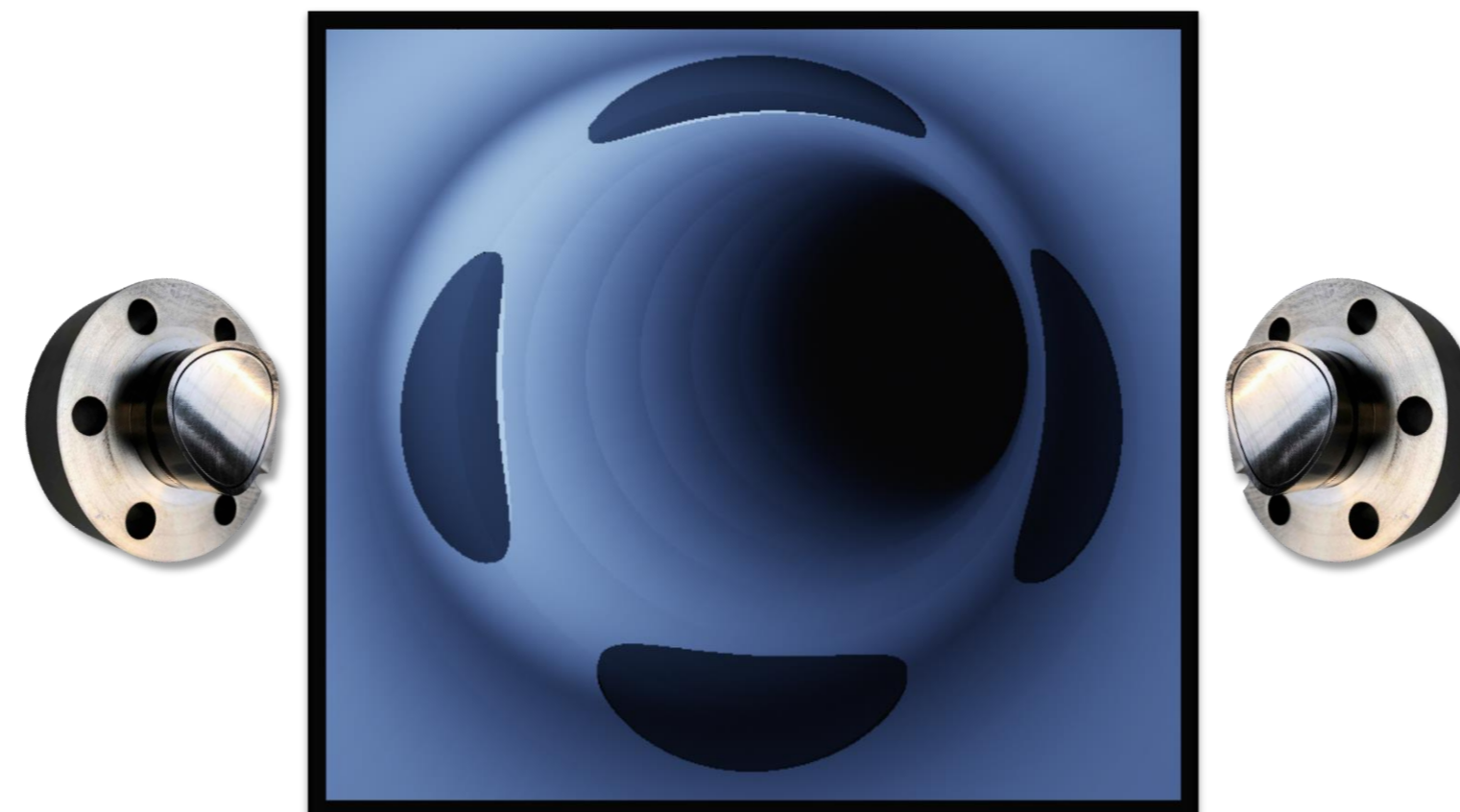
- REALITY VS. VIDEO GAME -

Beam TV (BTV)



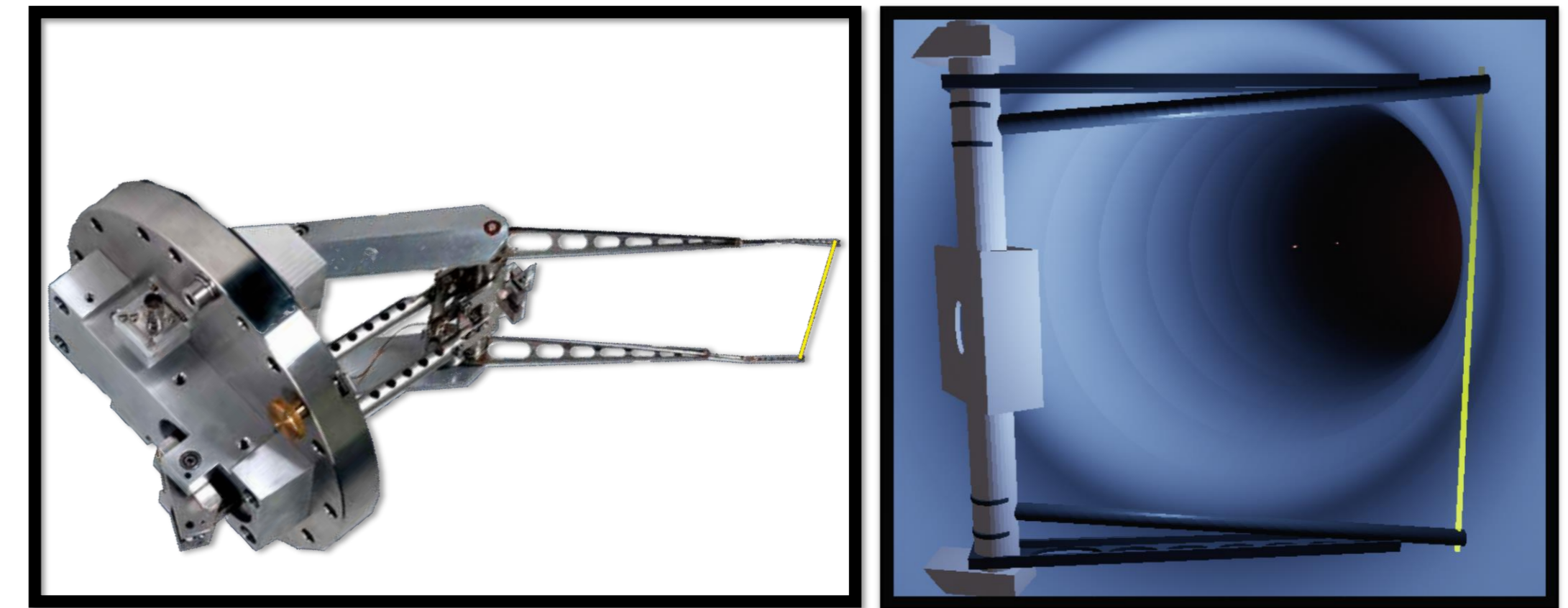
For the measurement of the beam **size and shape**, a movable screen is inserted into the beam trajectory. The interaction of the particles with the screen, generates light which is captured through an optical system and a camera.

Beam Position Monitor (BPM)



As the beam propagates in the pipe, its **position** is measured by detecting the electro-magnetic field surrounding the particles, or by measuring the image current induced on the metallic pipe.

Beam Wire Scanner (BWS)



To measure the transverse beam **profile**, a very thin carbon wire passes through the beam. The secondary particle shower generated is detected and transformed into an electrical current, from which the beam profile is reconstructed.

- HOW TO PLAY -

