

Abstract Submitted  
for the DFD20 Meeting of  
The American Physical Society

**Visualizing CFD data in 3D augmented reality as an extension of 2D figures in scientific publications**<sup>1</sup> NITESH BHATIA, CRISTIAN RICARDO CONSTANTE AMORES, OMAR MATAR, Imperial College London — Modern CFD simulations increasingly rely on 3D computational techniques, and hence the findings are based on 3D datasets. However, the figures that support their claims are commonly reported and communicated with 2D figures. We present an end-to-end CFD data processing and distribution pipeline which extends 2D figures to show the corresponding 3D models in Augmented Reality (AR). The proposed system can process CFD data from Paraview and convert it to USDZ AR file. The resultant file allows for direct consumption CFD data by mobile devices for native AR rendering. Interactive 3D figures can help a reader to quickly obtain a better understanding of the CFD data as well as the conclusions drawn by the authors.

<sup>1</sup>Funding through Imperial College London Pedagogy Transformation programme is gratefully acknowledged.

Omar Matar  
Imperial College London

Date submitted: 14 Aug 2020

Electronic form version 1.4