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**Title:** 3D MHD Simulations for Jet Experiments: DOE INFUSE

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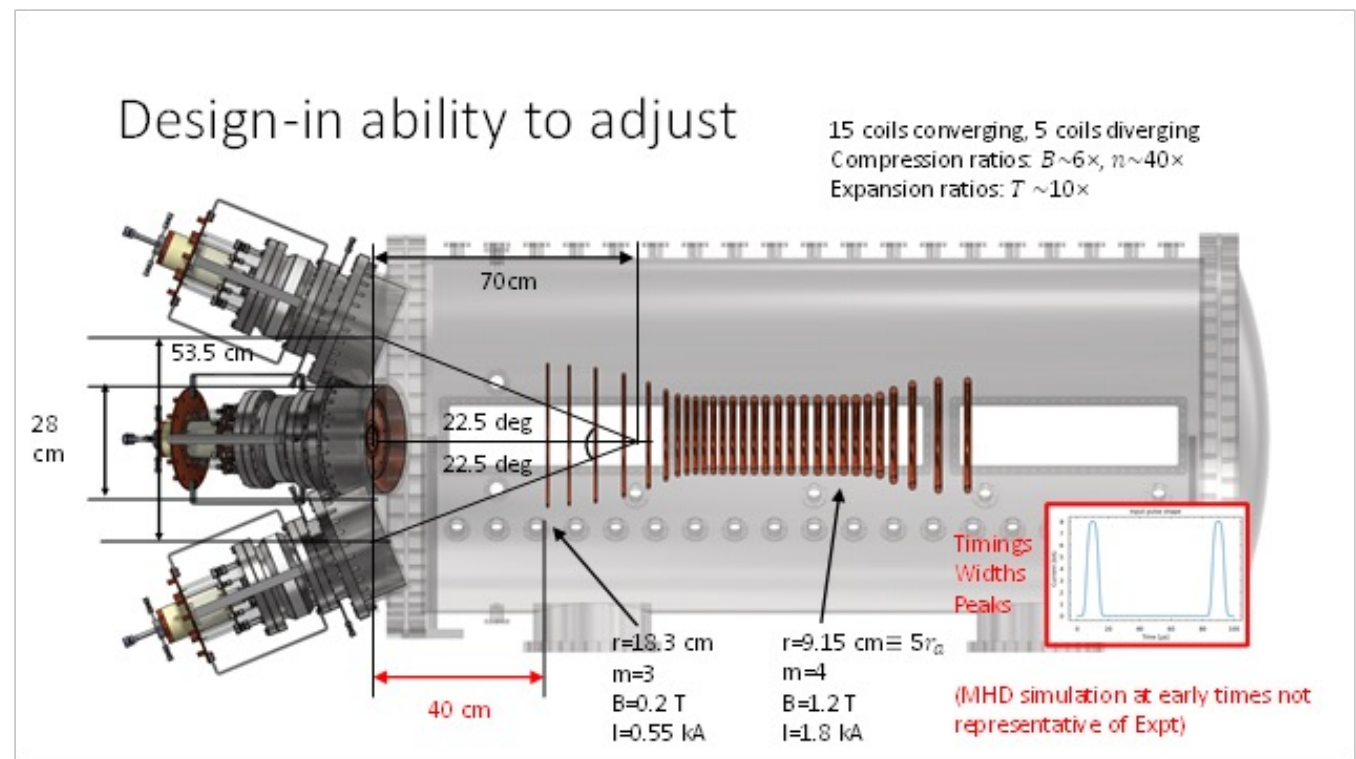


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# 3D MHD Simulations for Jet Experiments: DOE INFUSE

# New Experiment Setup by Dr. Setthivoine You of HelicitySpace Inc.

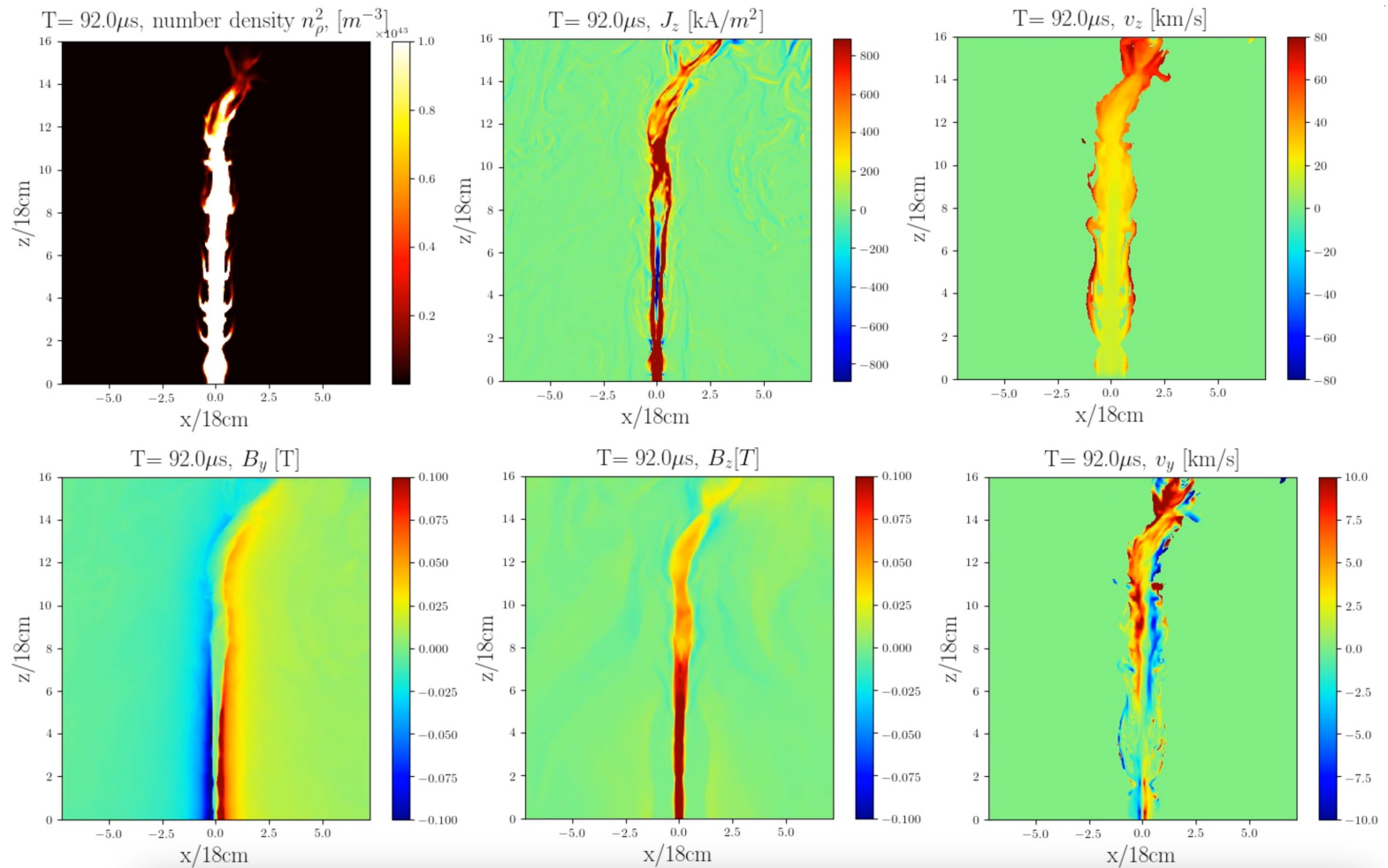
- Dr. You proposed a new setup “ÉCLAIR”
- Both initial and injection magnetic field is changed
- Add compressor-field to compress the Jet in the Chamber



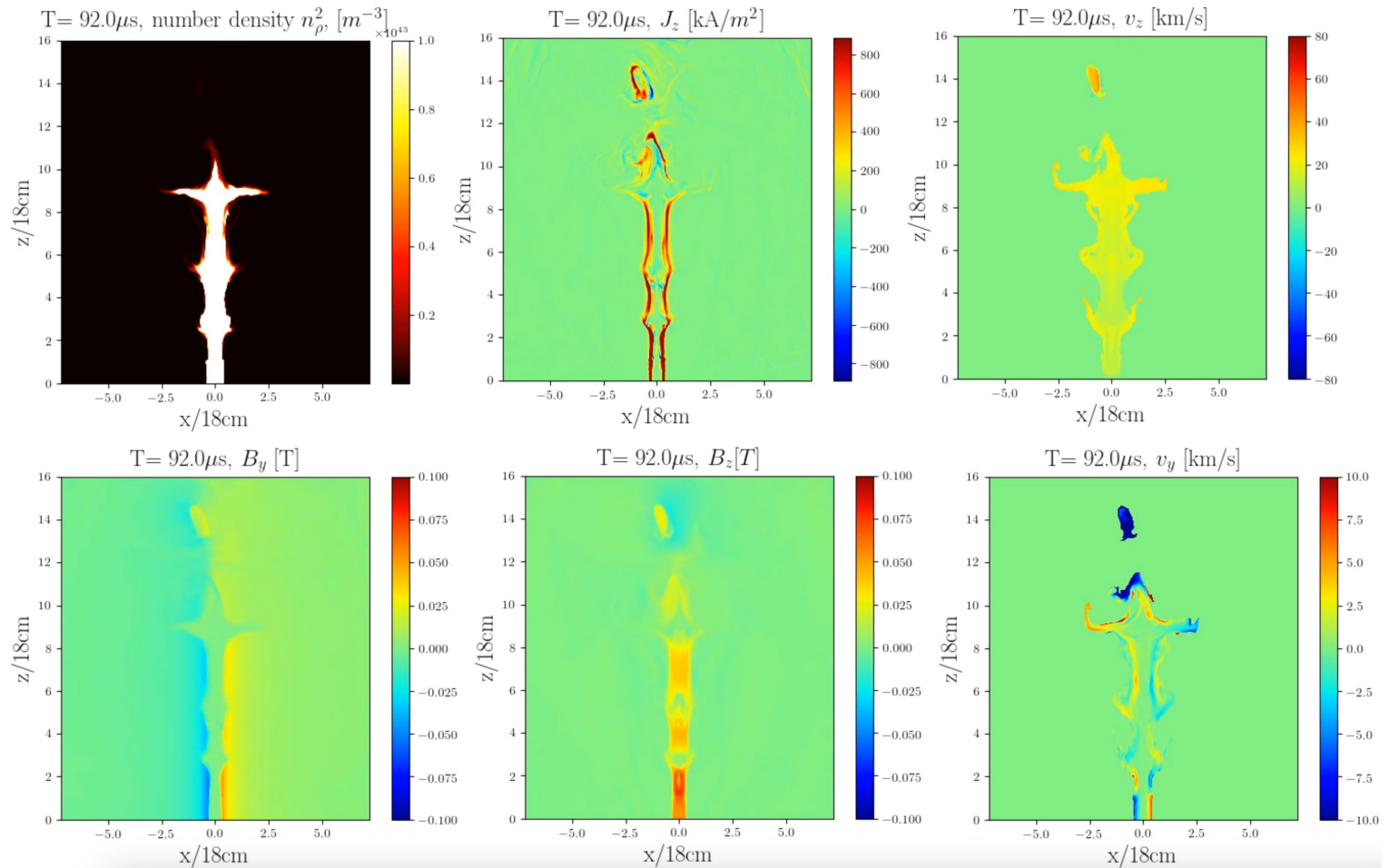
# 3D Simulation Results for ÉCLAIR

The peak  
current of  
core gun is  
 $I_a = 82.2 \text{ kA}$

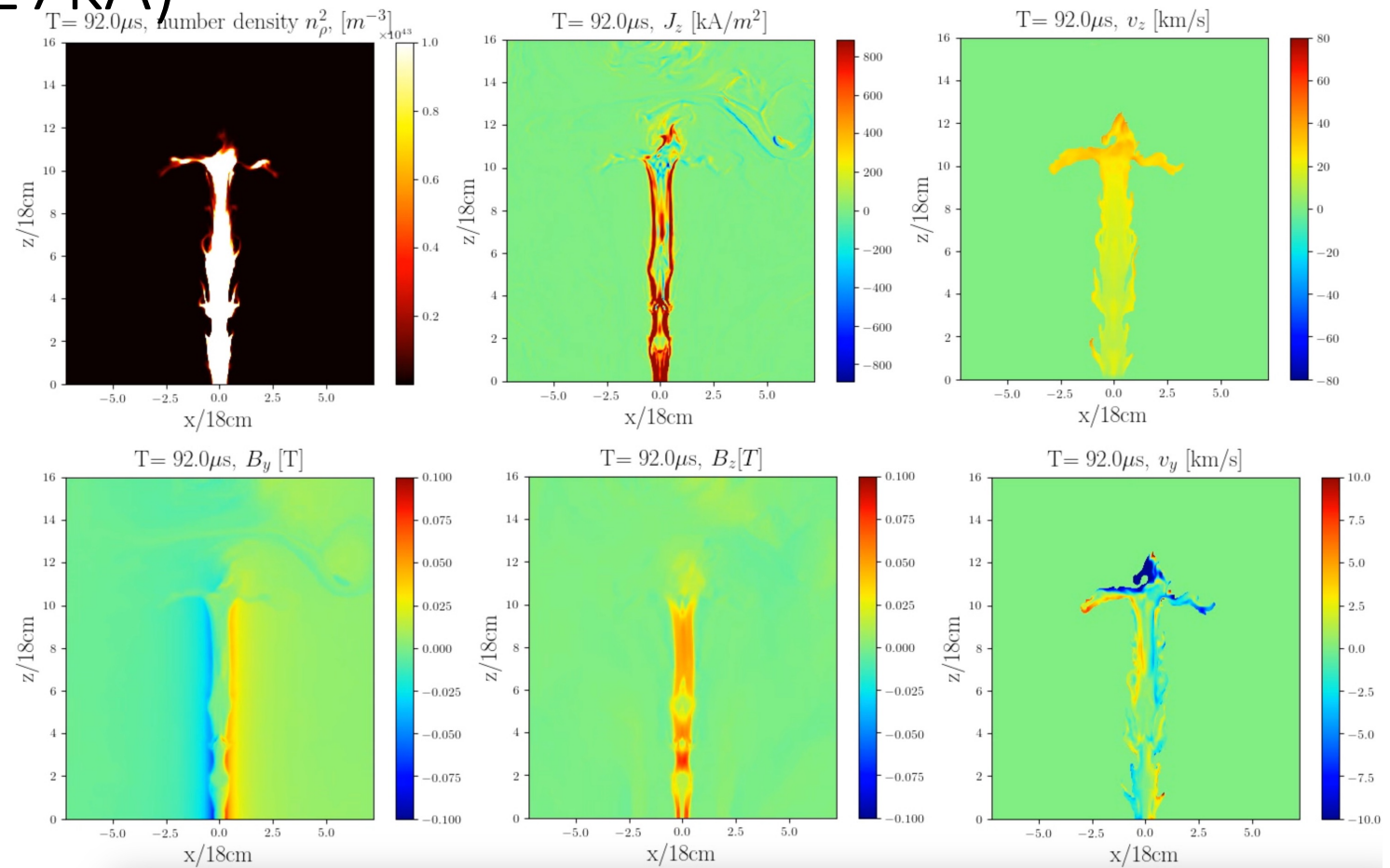
The peak  
current of the  
skin gun is  
 $I_b = 80.9 \text{ kA}$



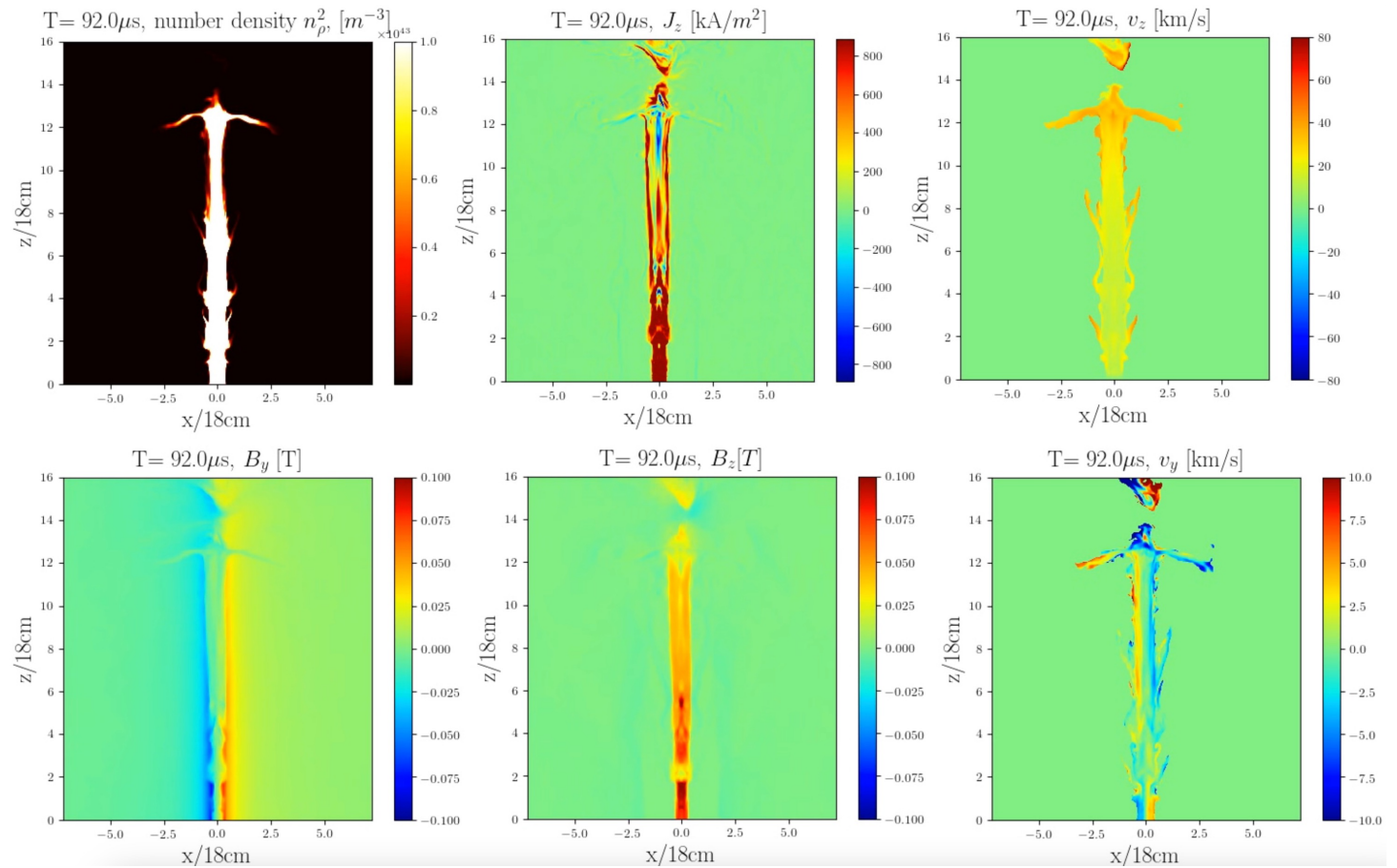
# 3D Simulations with Different Current of Core Gun ( $I_a = 0$ )



# 3D Simulations with Different Current of Core Gun ( $I_a = 24.27\text{kA}$ )



# 3D Simulations with Different Current of Core Gun ( $I_a = 42.88\text{kA}$ )





# Jet Simulation with Compressor

The dotted line is  
position of  
Compressor coil

The initial magnetic  
has new value.

