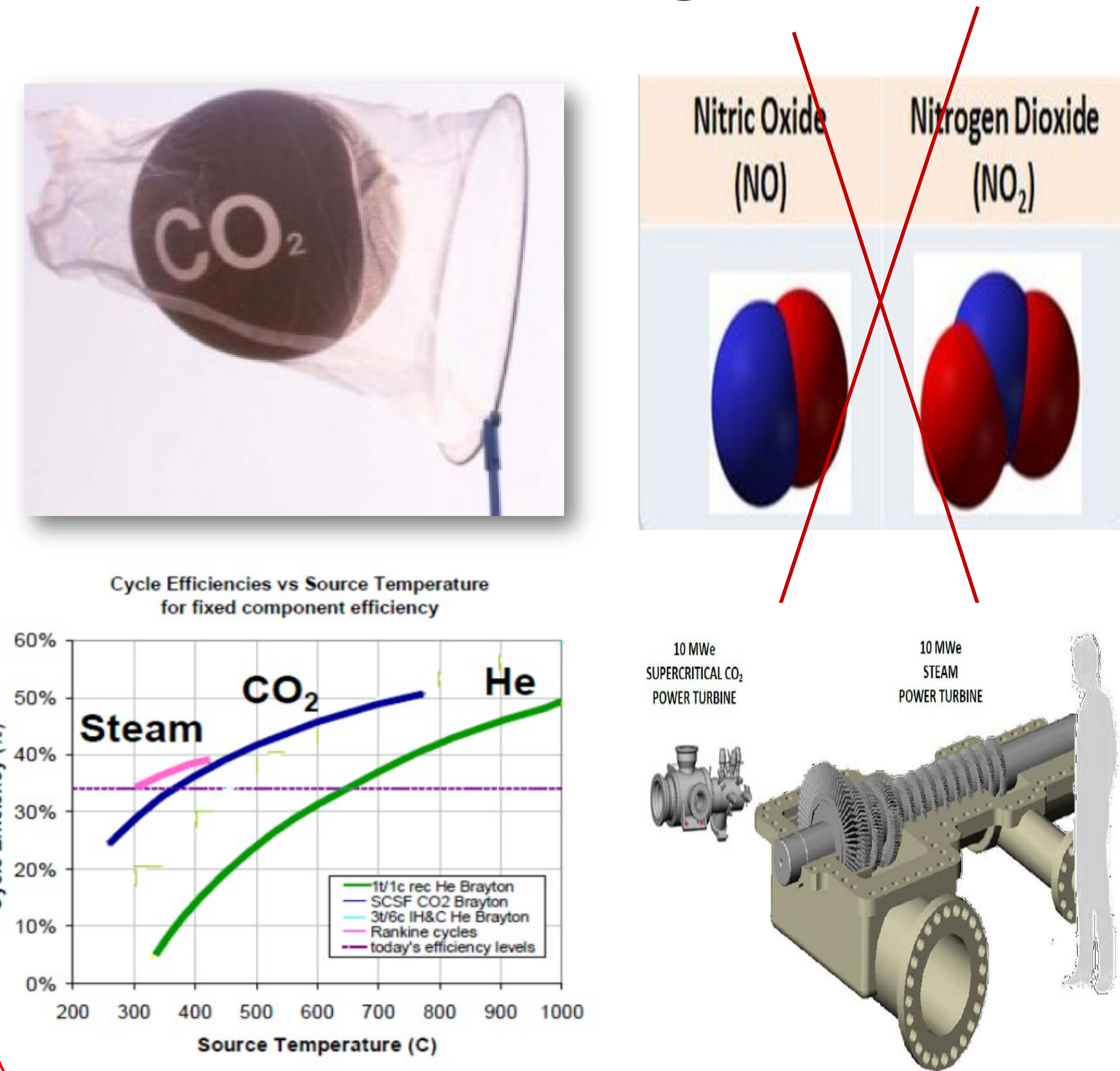


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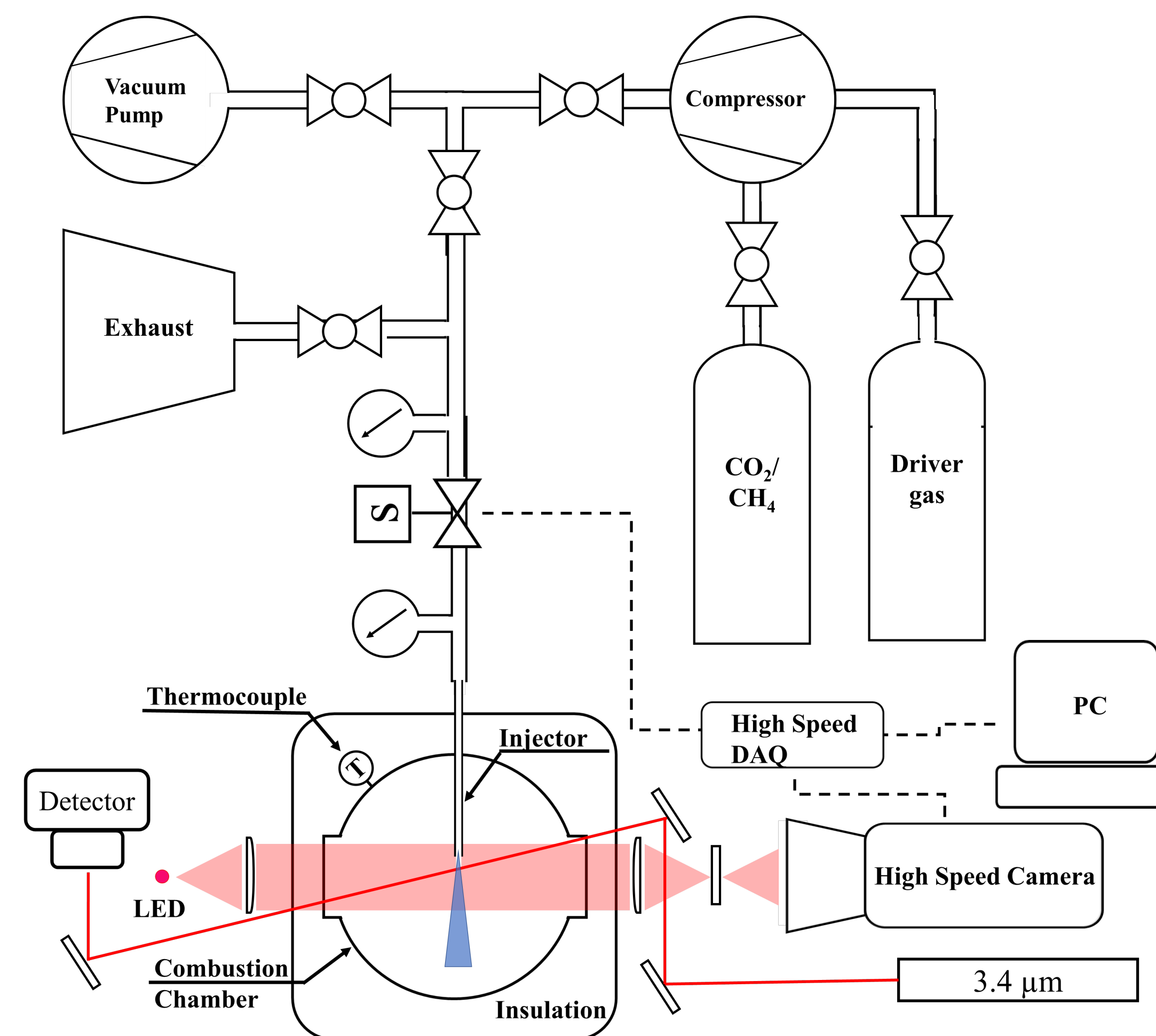
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**Motivation:** While sCO<sub>2</sub> turbines are reaching high-pressure values for high power output, there are challenges associated with high pressure, such as jet mixing, expensive and time-consuming experimentation. Hence, the experimental campaign provides validation data for the simulation tool, defining its vital role in generating a high-pressure environment.

## Advantages

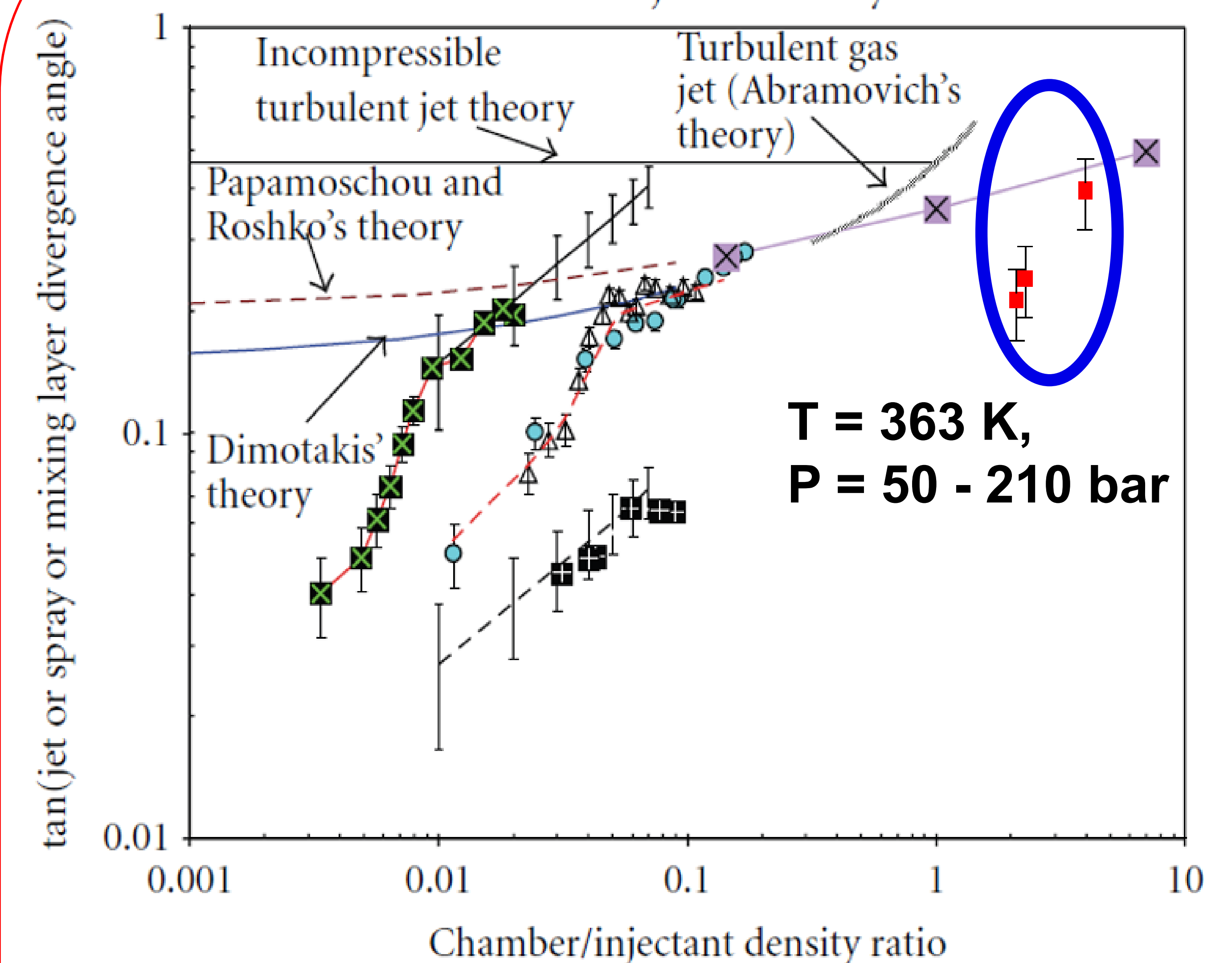


## Experimental Facility



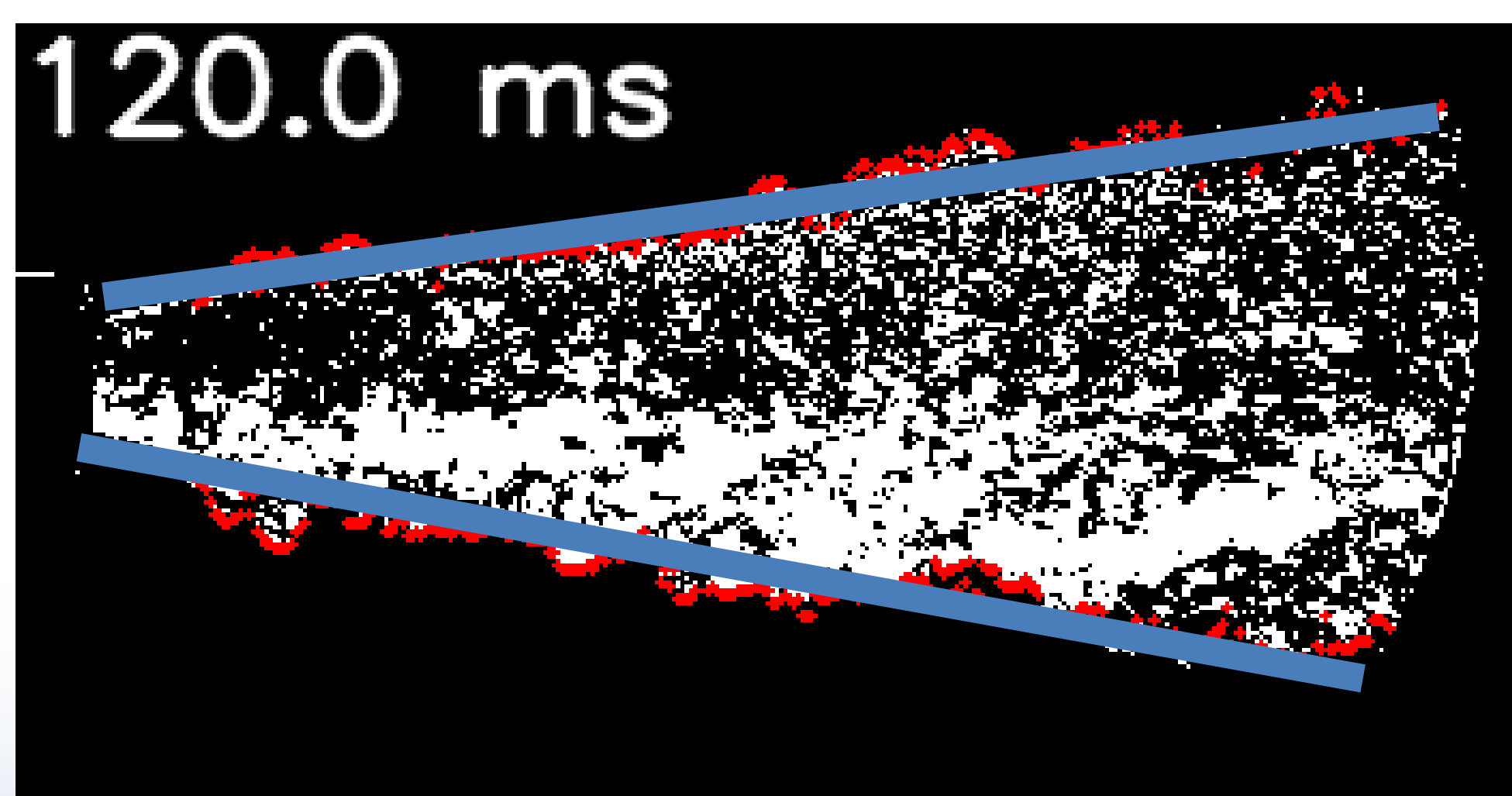
Schlieren Imaging and Absorption Spectroscopy techniques

## Results



Methane is injected into the CO<sub>2</sub> environment at subcritical to supercritical conditions.

## Post-Processing → JCA



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Picture source: 1. <http://www.21stcentech.com/environment-update-carbon-capture-technique-revealed> 2. : <https://www.colorado.edu/aqiq/resources/nitrogen-oxides> 3. Jason Wilkes, SwRI tutorials (sCO<sub>2</sub> symposium'18) 4. Persichilli et al. (2012) and SwRI tutorials (sCO<sub>2</sub> symposium'16)