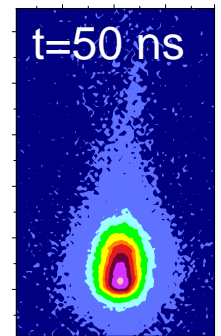
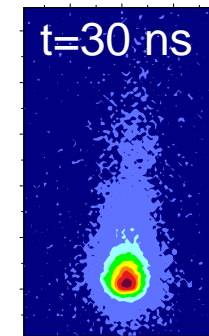
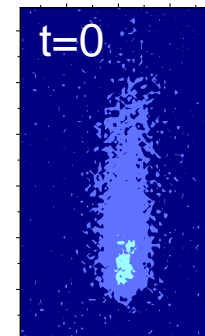
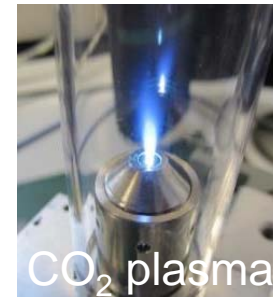


Fast Imaging of CO₂ Microwave Sustained Plasma

The plasma assisted conversion of CO₂ into synthetic fuels based on renewable energies is considered a very promising approach for mitigation of CO₂ emissions. In particular, microwave-sustained plasmas show the highest efficiencies (up to 80%) reported among other plasma discharges.

If microwave power is coupled in plasma not continuously but in short pulses, the process is favored by generation of non-equilibrium plasma states. To control the plasma shape and intensity of emitted light the fast imaging technique is utilized. It is realized by employing the intensified CCD camera (ICCD) synchronized with microwave pulsations by means of precise delay generator.

In this work the trainee gets the experience how to setup the advanced ICCD camera as well as how to synchronize the diagnostic and physical process to gain its time resolved characterization.



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