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Diagnostic Challenges in Plasma Medicine¹ STEPHAN REUTER, HELENA TRESP, ANSGAR SCHMIDT-BLEKER, JOERN WINTER, SYLVAIN ISENI, MARIO DÜNNBIER, KAI MASUR, ANNEMARIE BARTON, MALTE HAMMER, ZIK plasmatis @ INP Greifswald, THOMAS VON WOEDTKE, KLAUS-DIETER WELTMANN, INP Greifswald — Atmospheric plasmas exhibit large gradients in space and time. This challenges diagnostics such as LIF or other quantitative species detection methods. Bringing these plasmas in contact with liquids generates further complex processes which influence reactive component generation in the plasma, gas- and liquid phase. For plasma medicine, the transfer through these phases to the cell is the task for diagnostics. In the present work, several approaches of plasma, gas and liquid diagnostics such as LIF, absorption spectroscopy, colorimetric assays or EPR spectroscopy are discussed and it is shown how a careful study of the processes can lead to an at least partial understanding of plasma interaction with biological cells.

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