Simulation of a inductively coupled hydrogen plasma for sterilization processes MAX ENGELHARDT, BENJAMIN DENIS, Ruhr University Bochum, Institute for Plasma Technology, Germany, THOMAS MUSSEN BROCK, Ruhr University Bochum, Institute for Theoretical Electrical Engineering, Germany, PETER AWAKOWICZ, Ruhr University Bochum, Institute for Plasma Technology, Germany — Usability of plasmas for sterilization of medical devices is numerously investigated [1]. On short timescales, the main sterilization agent in a gas discharge is the VUV/UV radiation [2]. In order to generate a broad VUV spectrum, a hydrogen discharge can be used. Aim of this work is to simulate a hydrogen discharge in a double inductively coupled plasma (DICP) reactor. The simulation is done with the Hybrid Plasma Equipment Model (HPEM) [3]. The results of the simulation are verified with experimental data of optical emission spectroscopy and mass spectroscopy. Additionally, a Langmuir probe is used to verify the spatially resolved electron density in the discharge.