

Abstract Submitted
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Development challenges for Low Temperature Plasma Sources “from Idea to Prototype”¹ T. GERLING, J.-S. BAUDLER, S. HORN, M. SCHMIDT, K.-D. WELTMANN, INP Greifswald — While plasma medicine is a well-motivated and intensively investigated topic, the requirements on the plasma sources change for individual applications. For example in dermatology, a large scale treatment is favored, while in dentistry, a localized application of plasma sources is required. Meanwhile, plasma source development is based on feasibility and not on the application. When a source is developed, it is usually motivated towards an application instead of considering an application and designing a plasma source to fit its needs. Each approach has its advantage and can lead to an advance in the field. With this contribution, we will present an approach from idea to prototype and show challenges in the plasma source development. For example, the consideration of legal regulations, adaption of the plasma source for a specific field of application and the interplay of gas flow dynamics with electrical field distribution. The solution was developed within several iterations to optimize it for different requirements. The obstacles that occurred during the development process will be highlighted and discussed. Afterwards the final source is characterized for a potential medical application and compared directly with a plasma source certified as a medical product.

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