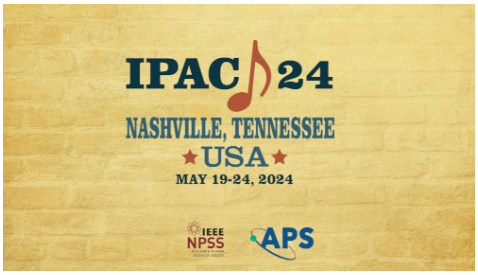

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Hybrid plasma generator for high intensity fast pulsed ion sources

Wednesday, 22 May 2024 16:00 (2 hours)

The main challenge in the development of high intensity ion sources is, besides the space charge limited extraction, the available plasma density. Conventional plasma generators use e.g. arc discharge plasmas or RF generated plasmas. Preliminary tests are carried out on both types of plasma generators and plasma parameters are determined to create a basis for evaluation. A concept is being developed that combines the advantages of both types. This hybrid plasma generator will also be investigated in terms of plasma parameters in order to test a possible application for high intensity ion sources. Further the proposed plasma generator has the property that due to a permanently available low-density RF plasma a faster build-up of the highly dense arc discharge plasma may be achieved. The properties of the concept with regard to a fast plasma build-up time are being investigated in order to test a possible application for the fast pulsing of high intensity ion sources.

Footnotes

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