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Title:Experimental analysis of Pseudospark sourced electron beam
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Abstract:The pseudospark (PS) discharge has been shown to be a promising source of high brightness, high intensity electron beam pulses. The PS discharge sourced electron beam has potential applications in plasma filled microwave sources where normal material cathode cannot be used. Analysis of the electron beam profile has been done experimentally for different applied voltages. The investigation has been carried out at different axial and radial location inside the drift space in argon atmosphere. This paper represents experimentally found axial and radial variation of the beam current inside the drift tube of PS discharge based plasma cathode electron (PCE) gun. With the help of current density estimation the focusing and defocusing point of electron beam in axial direction can be analyzed.
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