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Facts and figures on S2C2 ion source: experimental characterization and extrapolated results for application in PT

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IBA will equip its new superconducting synchrocyclotron (S2C2) with an internal PIG ion source. This choice is motivated by the source compactness, simplicity and cost but is not easy to implement in the present case. As an example, the high magnetic field and central region turn pattern imply the use an extremely thin chimney. Therefore, experimental design validation and testing is currently under progress on a dedicated test bench at AIMA-Developpement (Nice, France). The main characteristics of the source, such as its dynamic range, noise, lifetime, stability of the extracted beam have been obtained and are detailed in this communication. This characterization also includes a statistical approach of the source behavior. The discussion will finally present how these results can be used to simulate the source performance in the context of the treatment modalities of the ProteusOne system.

Please indicate preferred presentation (poster or talk?)

talk

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