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## **Design and validation of the LEBT for the project LINAC 7, a low-current low-energy compact LINAC**

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In this paper we present the design and validation of a compact LEBT for the LINAC 7 project. Specifically, the LINAC 7 project focuses on building a new generation, low-energy, low-current compact accelerator. The core idea is to achieve an energy of 7 MeV in less than 12 m while maintaining enough current to generate isotopes for medical uses.

Through this work we explain the procedure we followed for the design, including the tests that we carried out to reach the final result.

This includes the iterations we needed to overcome various problems such as how to keep the LEBT compact and deal with cooling, when is the best time for packing factor calculation, how to solve mechanical problems,...

Although this LEBT is intended to be used with protons, further simulations have been carried out to show that it could be used for other species as well.

### **Funding Agency**

### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

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