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Status of bellows and flanges impedance studies

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In the framework of the FCC project, the development of an accurate beam coupling impedance model of the accelerator elements represents an important aspect for reaching the machine design performances.

A significant contribution to the total coupling impedance is provided by bellows and vacuum flanges, for which an accurate electromagnetic characterization is required.

In this work a step-by-step approach, from simplified to complex models involving 3D electromagnetic simulations, is discussed, and an estimation of the beam coupling impedance of a simplified bellow model is presented.

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