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## **Resistive wall impedance of multilayer beam pipes of general cross sections**

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One of the interesting topics among accelerator physicists in the last decades has been the resistive wall impedance of vacuum chambers with general cross sections. The resistive wall impedance of a round pipe was calculated more than half a century ago, followed by parallel plates, rectangular pipes, and, in more recent years, oval shapes. Analytical solutions usually require some approximations to simplify them. It is possible to solve Maxwell's equations in the vacuum chamber with simulation codes in order to obtain an exact solution for Resistive wall impedance. Although some of them show promising results, the need for a versatile code that can calculate resistive wall impedance and wakefield in a general cross-section vacuum chamber is still necessary. VACI-suite is a finite element solver that tries to solve this problem. Compared to well-known theories and simulation codes for well-known geometries, the code's results show remarkable agreement.

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### **Footnotes**

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Yes

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