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Fabrication Processes for Low-Emittance Storage Ring Copper Vacuum Chambers

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New generation low-emittance storage rings bring new challenges for vacuum system design and to industry partners. Vacuum chambers from copper alloys are more frequently required, and processes for forming, machining, welding, cleaning and non-evaporable getter coating have been developed in response to this demand.

The technical challenges, available processes, and examples of recent activities are presented to share an industry perspective. Current processes and those in development are presented to encourage discussion about ideal mechanical design of vacuum chambers for storage rings, to optimise functionality, cost and reliability of fabrication.

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Footnotes

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Yes

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