

New Bending Magnet Vacuum Chambers at Elettra

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Abstract

The Elettra storage ring, in operation since October 1993, was originally designed with all its vacuum chambers in AISI 316 LN stainless steel. New beamline projects have required the development of new kinds of insertion devices (IDs) that can work in circular and vertical polarized modes besides the usual linear one. These new ID working modes however have undesirable heat load effects on the bending magnet vacuum chambers. For this reason new chambers have been developed in aluminium alloy with internal water cooling channels close to the critical points of interaction with the photon beam. In this contribution we describe some aspects of the aluminum chambers, focusing our attention on the heat load problems.

Keywords: aluminum chambers, heat load, undulators

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