

PROTOTYPING ACTIVITIES AT AES FOR ANL-RIA AND ATLAS CAVITIES

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Abstract

Since mid-2001 Advanced Energy Systems (AES) has worked with Argonne National Laboratory (ANL) to produce five prototype cavities for their RIA and ATLAS projects. With ANL leading the effort, AES worked in collaboration in developing design details, performing engineering analysis, and developing manufacturing plans and tooling designs for niobium forming and machining.

In manufacturing the cavities AES was responsible for the bulk of the niobium forming and machining while Sciaky Inc. in Chicago performed the electron beam welding under the direction of ANL. Tuning operations prior to the final welds were done at AES while all processing, tuning and testing of the finished cavities was done by ANL. This paper will discuss highlights of the design, analysis and fabrication of these cavities and the concurrent engineering environment that was applied very successfully in this program. We will also discuss the application of modern design and analysis tools to facilitate efficient prototype production.

NO SUBMISSION RECIEVED