

Evaluation of a 3D Design Information Verification System for Uses at Oak Ridge National Laboratory



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Through a joint research cooperative with the European Commission's Joint Research Center, Oak Ridge National Laboratory (ORNL) has been given access to the 3D Design Information Verification (3D-DIV) system. This is a laser scanning system that can determine if an object has been moved as little as five millimeters. ORNL will test the 3D-DIV system to evaluate the systems limitations, applicability to ORNL, and function within nuclear installations. Five different experiments will be conducted. Scans will be taken from several well marked spots and subsequent verification scans will be taken at various distances from the original positions to test the importance of the placement of the laser. The use of barcodes in conjunction with the 3D-DIV system will be examined to determine other possible field applications. The response of the system to highly reflective materials at different angles will be evaluated. The next experiment will deal with layers of piping similar to that in nuclear facilities. And finally, the ability of the system to scan through different mediums (e.g. thin glass, colored water) will be assessed. The results obtained from these tests will be presented.

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