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## Development of innovating Na leak detector on pipes

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Within the ASTRID reactor project, CEA, EDF and AREVA, have launched a R&D program focused on the low leak rates detection of sodium on pipes. This program is focused on the development of innovating detectors, multilayer-type and Optic Fiber, involving tests in the FUTUNA-2 sodium loop. This loop is designed to produce very accurate sodium leak rates within a range around 1 cc/min, the tests being performed at different temperature (up to 550°C) on large-diameter pipe mock-ups (DN 800) at ambient atmosphere.

This paper presents the first series of tests carried out with various materials of the first and second layer of the detector. The results are compared and discussed as well as the observations made after removing the mock-ups. The most interesting result of the overall tests is a detection time less than 2 hours for the two types of detectors.

### Country/Int. Organization

FRANCE/ CEA (Commissariat à l'Énergie Atomique et aux Énergies alternatives)

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