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A PROGRAMME FOR CHARACTERIZATION OF RADON DAUGHTERS
IN INDOOR AIR

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A scientific programme has recently been started at the University of Lund,
Sweden to obtain more knowledge about the interaction of radon daughters
and the environment, in particular the aerosol in dwellings.

In the first part of the project we are developing two different techniques for
determination of the activity distribution of radon daughters. The first method
combines an electrostatic particle sizer (TSI 3071) and a plastic film designed
for radon measurements to obtain a size distribution of the attached radon
daughters. The second technique uses a specially designed multi-jet impactor.
The advantage of this impactor is the possibility of combining a low cut-off
with a high flow-rate.

Furthermore, an ionization chamber has been designed to be able to detect
radon daughters on large areas (diameter 20 cm). This technique will improve
the possibility to detect low concentrations of attached and unattached radon
daughters. It is also suitable for measurements of the plate-out of the radon
daughters on different surfaces in the room.

In the second part of the project the measurement techniques for unattached
radon daughters will be improved, followed by a systematic series of
measurements in different types of dwellings.

The paper will present the status of the project and the results obtained so far.