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Estimation of Radiation Dose due to Thoron and Progeny inhalation in high Background natural radiation area of Eastern Coastal Area of Odisha, India

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It is an establish fact that exposure of high radon is one of the causative factors of human lung cancer. The presence of thoron, ^{220}Rn , was often neglected because it was considered that the quantity of thoron in the environment is less than that of radon. However, recent studies have shown that the dose due to exposure to ^{220}Rn and its progeny can equal or several times exceed that of ^{222}Rn and its progeny. The results of thoron and its progeny measurements in the houses of normal and high background radiation areas (HBRA) of India using both active and passive techniques in different types of houses are presented here. A comparison between the results obtained with various techniques is presented in this paper. Thoron concentration was found relatively higher in the houses of the study area. The effectiveness of various thoron and progeny measurement techniques and their usefulness in estimating the dose to general public are discussed in details.