

STUDIES ON THE EFFECT OF ATMOSPHERIC RADIOACTIVE MATERIALS ON HUMAN BEING IN DIFFERENT PLACES OF EGYPT

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ABSTRACT

Living in nature, human cannot avoid the radiation. About 80% of all radiation is from nature, and 55% of natural is from radon (Rn) and radon progeny. So people have paid much attention to the biological harm, which is due to Rn and Rn progeny. The greatest fraction of the natural radiation exposure in humans results from inhalation of the heavy metals of short-lived decay products of radon (^{222}Rn) and thoron (^{220}Rn). To estimate the radiation dose due to the exposure to the short-lived radon and thoron decay products in the atmospheric air, one must know the amount and deposition place in the lung. For these dose calculations, three parameters of air activity are important: 1). Concentration of the decay products. 2). Concentration of the unattached fraction of the decay products. 3). Activity size distributions of the radioactive aerosols. Some recent studies on these processes have been done including our research activities, the main radioactive decay properties and the processes affecting concentrations. The radioactive aerosol size distributions and its effect on the human being in different places.

KEYWORDS: Natural Radiation, Radon Progeny, Heavy Metals, Radioactive Aerosols and Aerosol Size Distributions