NATURAL RADIOACTIVITY MEASUREMENTS OF COALS AND ASHES FROM ÇAN COAL-FIRED POWER PLANT AND RADIOACTIVITY CONTAMINATION OF SOILS IN ITS VICINITY

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Combustion of fossil fuel containing naturally occurring radionuclides from the uranium and thorium series as well as $^{40}$K may have an impact on environmental radioactivity level in the vicinity of power plants. Fly ashes escaping from stacks contain these radionuclides concentrated a few times in comparison with their content in coal or surface soil.

In this study, Çan (Çanakkale, Turkey) coal-fired power plant; that use young lignite, started early 2000' and has a fluidized bed system, was investigated for the natural radioactivity of the coal and the bottom-ash. Twenty soil samples in the vicinity of Çan coal-fired power plant were collected and natural radioactivity concentrations were analyzed. And than, the absorbed dose rates in air from gamma radiation 1 m above ground level were calculated.

Keywords: Coal, natural radioactivity, soil, absorbed dose, Çan.