Aerosol environment in accelerator rooms of electron linac facilities

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Abstract

In accelerator facilities, there are two kinds of aerosols in air of accelerator rooms during machine operation. One is aerosols (dusts) brought from outside, the other is nano-particles produced through radiation-induced chemical reactions from air in high radiation areas in the accelerator rooms. Their particle size and concentration are basic information on evaluation of airborne radioactivity and internal radiation exposure. In this report, the particle size and concentration were measured for both of the two kinds of aerosols in an electron linear accelerator (Linac) facility.