

Retrospective dosimetry after a radiological accident: How a mobile phone can be helpful

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Physical dosimetry is necessary to reconstruct radiation doses after exposure to assist in triage and treatment of exposed individuals. For physical retrospective dosimetry, many fortuitous materials such as mobile phone electronic components, display glass, touch screen glass, chip cards, and other personal belongings have been investigated by many researchers to serve as possible accident dosimeters.

This lecture gives a brief overview of which components of mobile phones are radiation-sensitive and can be used for dose reconstruction in case of a radiological accident. Using general requirements for retrospective dosimetry, the display glass of mobile phones is discussed in detail and the dosimetric properties that were taken into account for the development of a robust measurement protocol are presented.

Further investigations, such as the energy and angle dependency of display glass in mobile phones, as well as the results of realistic gamma radiation tests, complete the lecture.

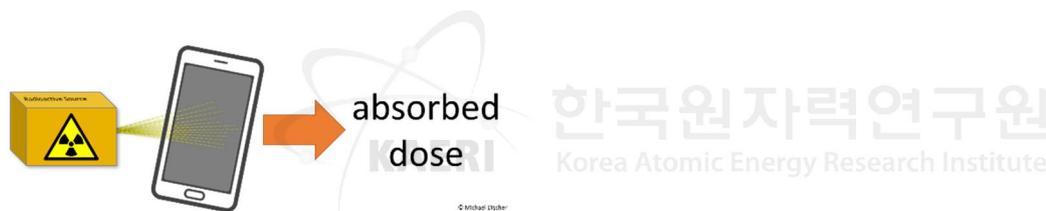


Fig. 1: Symbolic image how a mobile phone may be used as an accident dosimeter.

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