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POSTER ☐

PLATFORM PRESENTATION ☒

Dielectric Properties Of Tissues As A Function Of Age And Their Relevance In Assessment Of The Exposure Of Children To Electromagnetic Fields; State Of Knowledge

Azadeh PEYMAN

Physical Dosimetry Department/Health Protection Agency, Didcot, UK

One of the main inputs required in the dosimetry studies assessing the exposure of people to electromagnetic fields (EMF) are dielectric properties of different body tissues. Until recently, the literature data consisted mostly of dielectric properties of tissues from mature animals (Gabriel et al 1996) usually used to simulate adult models of human head/ body. In the last few years, and due to substantial concern about the possible differences between the exposure of children and adults to EMF, the focus of many studies have been shifted towards development of childrens' head/body models. To provide relevant dielectric data for children models, several studies have been carried out on dielectric properties of animal tissues from a range of ages (Peyman et al 2001, Peyman et al 2007, Peyman and Gabriel 2010). These studies have triggered discussions on the extent to which the variation of dielectric data as a function of age would affect the results of dosimetry studies, and consequently, the possible implications for the exposure of children. This paper summerises and reviews the state of knowledge on dielectric properties of tissues as a function of age. It also examines the impact of variation in dielectric data on the outcome of recent dosimetric studies in particular when single tissue exposures are considered (Peyman et al 2009 and Christ et al 2010) .

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