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## Fingernail dosimetry

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The use of the electron spin resonance (ESR) technique on fingernails for the estimation of individual doses following a radiation accident is of particular interest in the field of dosimetry because of the ubiquitous and non-invasive nature of sampling of fingernails. However, a generally acceptable dosimetric method for dose assessment using ESR technique from fingernails has not yet been established. This is particularly because the ESR fingernail spectrum is very complex and often affected by several environmental factors, requiring more effort to figure out which solutions are useful in filling the gaps for practical dosimetry purposes. Finding feasible solutions toward goals that address the real needs in the applicability of ESR fingernail dosimetry are

still under unexplored paths of research. To this goal, we have been investigating different optimized conditions in sample preparation and storage to help improve the dosimetric signal of interest in fingernails against several environmental factors. Our published and unpublished data produced encouraging results to warrant continued studies on ESR fingernail dosimetry. Moreover, our results are expected to contribute significantly to the sample quality and consequently help achieve a consolidated and standardized procedure for the estimation of individual doses following a radiation accident using ESR dosimetry of fingernails. In this presentation our research achievements, current challenges, and future research directions to increase the potential applicability of ESR from fingernails as a dosimetric method are discussed.