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PAPER TITLE PRESENT CHALLENGES IN RETROSPECTIVE DOSIMETRY

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The last decade was noted with significant development of retrospective dosimetry methods. This qualitative and quantitative growth was prompted by attention to problems of dose reconstruction in context of Chernobyl accident. It is expected that an acute need in tools for assessment of individual doses would be met with variety of biological, instrumental, and analytical approaches. Unfortunately, enthusiasm connected with use of methods of retrospective dosimetry is not quite justified. There are still lot of challenges on the way from acceptance of principal applicability of methods to widespread practical reconstruction of individual doses.

Both instrumental and biological methods are endowed with similar difficulties. One of shortcomings is caused by an existence of sensitivity threshold. Another challenge is connected with need of development of adequate methods for conversion of dose determined *in vitro* to dose received by individual. Finally, recent investigation have revealed a great importance of artifacts for correct determination of doses.

Although methods of analytical dose reconstruction do not have a threshold, an accuracy of results depends a lot on different factors. Another typical difficulty in analytical dose reconstruction is connected with lack of primary information. These two problems are inevitably connected and should be treated together.

Another important challenge in field of retrospective dosimetry is problem of combination and assessment of results gained by different methods. Both cross-validation of various techniques and common use of dose assessments achieved by different means will assist in production of reliable values of individual doses applicable for practical use in risk assessment.