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**DISCUSSIONS FOR THE SHIELDING MATERIALS OF
SYNCHROTRON RADIATION BEAMLINE HUTCHES**

ASANO Y¹

(1) SPring-8/Japan Synchrotron Radiation Research Institute, Sayo, Hyogo, Japan

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Many synchrotron radiation facilities are now under operation such as ESRF, APS, and SPring-8. New facilities with intermediated stored electron energy are also under construction and designing such as DIAMOND, SOLEIL, and SSRF. At these third generation synchrotron radiation facilities, the beamline shielding as well as the bulk shield is very important for designing radiation safety because of intense and high energy synchrotron radiation beam. Some reasons employ lead shield wall for the synchrotron radiation beamlines. One is narrow space for the construction of many beamlines at the experimental hall, and the other is the necessary of many movable mechanisms at the beamlines, for examples. Some cases are required to shield high energy neutrons due to stored electron beam loss and photoneutrons due to gas bremsstrahlung. Ordinary concrete and heavy concrete are coming up to shield material of synchrotron radiation beamline hutches. However, few discussions have been performed so far for the shielding materials of the hutches. In this presentation, therefore, we will discuss the characteristics of the shielding conditions including build up effect for the beamline hutches by using the ordinary concrete, heavy concrete, and lead for shielding materials with 3 GeV and 8 GeV class synchrotron radiation sources.