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Radiation safety study for conventional facility and siting pre project phase of International Linear Collider

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The International Linear Collider is a proposed high energy collider which consist of two liner accelerators, two dumping rings, electron and positron source, and single colliding hall with two detectors. The total length and CMS energy of ILC reach 31 km and 500 GeV, respectively (50 km with 1 TeV for future upgrade). In 2013, Technical research document (TDR) of ILC was published and Japanese candidate of ILC site was determined at Kitakami. After this, the design phase move to pre-project which includes accelerator detailed design, R&Ds for cost-effective production, site study, conventional facility and siting(CFS) designs. The CFS design in pre-project intends to determine not only actual design of accelerator tunnel and related infrastructure but also to design tunnel structure, beam dump housing, local shield for positron production target, ventilation, cooling water circulation and drainage, therefore it requires radiation safety studies. KEK radiation science center will take place this study according to request from ILC project management. In this talk, outline of ILC accelerators and several ongoing topics of related radiation safety study is presented including separation shielding wall thickness with design criteria.

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