

Status of the SOLEIL Project*, M.-P. LEVEL, et al. SOLEIL (France) - The detailed study of SOLEIL is going on, with the objective to start construction in January 99. The building preliminary design is completed and the detailed design, on the reference site, will be finished in July 98. By that time, the specifications of all major components on the critical path will be ready to launch call for tenders. Taking into account the very high targeted brilliance of the radiation source, beam stability becomes the major concern. A large effort was put into fighting multibunch and single bunch instabilities as well as ensuring a very good beam position stability. Simulations and measurements on a copper prototype of the RF two-cavity superconducting system have proved that the selected design is able to provide longitudinal stability for a beam of more than 500 mA. Magnetic and vacuum systems, girders and buildings are designed with the goal of minimizing beam vibrations and closed orbit drifts. The optimized energy acceptance is larger than $\pm 6\%$ leading to a long Touschek beam lifetime of about 40 hours at 500 mA. Topping up injection is also considered. Finally, theoretical developments were made, as for example, the detailed study of the vertical dispersion and betatron coupling.

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