

**Theoretical Study of the 100 MeV Linac, Injector of the SR Ring SOLEIL\***, M.A. TORDEUX, LURE; CH. BOURAT, THOMSON-CSF - A 100 MeV Linac will be built, in order to inject the booster synchrotron of SOLEIL. Two modes of operation will be provided corresponding to single and multibunch modes of filling in the storage ring. Calculation of the beam dynamics has been carried out from the gun to the injection point into the booster: design of the thermoionic gun, bunching system, accelerating structures and transport line. Special care has been taken so that no noticeable change needs to be made between the two running modes, as well as in the reliability and in the economical aspect of the injector. Two different numerical codes have been used, providing space charge calculation: Parmela (v5.03 implemented at LAL laboratory) and Dypal (Thomson-CSF). Comparison of the results will be presented.

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