

Studies of Beam Position Stability in SOLEIL Storage Ring*, J.L. LACLARE, M.P. LEVEL, A. NADJI, P. NGHIEM, SOLEIL (France); A. LOULERGUE, J. PAYET, CEA - The SOLEIL high brilliance is obtained by means of very low beam emittances which can result in vertical source sizes down to 6 microns at insertion device location. The effective beam size and thus the brilliance would be spoiled if the beam position stability were not excellent. We derive simple analytical formulae to calculate the statistical effects of external sources of vibrations propagating as plane waves in the soil to the individually supported magnets. We also consider in-situ sources of vibrations acting on girders supporting a series of magnets. The tolerances on the source amplitudes are then determined.

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