

Mastering of Beam Losses at the ESRF,
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U. WEINRICH, ESRF - With the installation of 11 mm
inner vertical aperture vacuum vessels in the straight
sections a dramatic increase of bremsstrahlung outside the
corresponding optic hutches was experienced as well as
high activation of the vacuum vessels. Touschek scattering
leading to electron losses in the vertical plane was identified
to be the origin of the bremsstrahlung with the help of a
new beam loss detector system installed. The injection
process was found to be responsible for a large part of the
vacuum vessel activation. Limiting the vertical acceptance
with scraper jaws proved to be effective to get rid of both
bremsstrahlung and activation problems. As a second
measure an increase of the vertical acceptance by applying a
small vertical beta function in all straight sections was made
operational which proved to be sufficient to suppress the
bremsstrahlungs problem. All the effort enabled the ESRF
to install a new set of only 8 mm inner vertical aperture
vessels. The presentation will contain the theoretical and
experimental work performed on this topic.