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Betatron stopbands and coupling resonance driving terms characterization at VEPP-2000 collider

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The final-focus solenoids of the round-beam e^+e^- collider VEPP-2000 can cause stopbands in the betatron tune plane. This specific stopband domain limits the available tune space in the most important region above the integer tunes. We present a study of the combined effect of coupling resonances caused by the decompensated solenoids and the integer-tune parametric resonances. The results are compared with numerical investigations of this combined effect. Presented experimental data includes scanning of the available betatron tune plane domain and evaluation of coupling RDTs using beam oscillation histories from BPMs.

Footnotes

Funding Agency

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Yes

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