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The adiabatic theory of the nonlinear coupling resonance crossing in circular accelerators

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In this paper, the nonlinear coupling resonance $2Q_x - 2Q_y = 0$ is studied by means of a Hamiltonian model. The detailed analysis of its phase-space topology unveils the possible phenomena that can occur when crossing adiabatically such a resonance. These considerations are probed by means of numerical simulations carried out using a symplectic map and the results are presented and discussed in detail.

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Footnotes

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