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## More general formula of minimum emittance

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In the storage rings, the electron beams go to the equilibrium state. One of the equilibrium parameters is the natural emittance which is determined by the radiation damping and quantum excitation effects. In other words, the equilibrium emittance is determined by the magnet lattice regardless of the initial beam. Theoretically the minimum emittance and its optimal conditions for uniform bending magnet have been well demonstrated. However, the minimum condition doesn't include the damping partition number. In this paper, we tried to calculate the minimum emittance including the damping partition number. The results shows that the minimum emittance condition and the minimum emittance value is slightly changed by including the damping partition number.

### Footnotes

### Funding Agency

### Paper preparation format

### Region represented

Asia

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