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## Performance of the diode stack with resistors to suppress beam instability at the J-PARC RCS

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The main source of beam instability in the J-PARC 3-GeV RCS is the impedance of the eight installed kickers. This arises because one end of each kicker magnet is shorted while the other end is left open during beam acceleration. The shorted-end configuration provides the benefit of power savings during beam extraction from the RCS. However, it also excites beam instability. To retain the energy-saving benefit while suppressing beam instability, we developed a diode stack with resistors and inserted it at the open ends of four kickers. This configuration effectively suppresses beam instability for smaller-emittance beams, which are delivered to the MR at J-PARC.

### Footnotes

### Paper preparation format

LaTeX

### Region represented

Asia

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