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The canonical formulation of Lagrangian for beam-wave interaction in slow wave structure

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Classical canonical Lagrange for the electromagnetic potentials has been formulated for beam-wave interaction enclosed by periodic structure or slow wave structure (SWS). The analysis procedure is based on expanding the potentials in the Lagrange of the given SWS in terms of the solenoidal and irrotational eigenmodes of a canonical cavity with cross-section enclosing that of the original cavity. Floquet-Bloch theorem are used in the expansion for the potentials. We conclude some numerical results demonstrating the importance of this formulation.

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Footnotes

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Yes

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