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Continuing Studies of a Simple Gyrotron Model Equation[1]
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— Following the analysis with other authors in J. Phys. A Math. Theor. **40**, 2203 (2007) three topics are explored. The model is linearized and for a given profile function solved exactly. This work leads to a revision in the previously proposed upstream conditions for the gyrotron. A variation of the linearized model allows for the introduction of particle bunching. In this case the dispersion relation is studied and some effects in the mode structure of particle bunching are given. The general linearized model can also be treated by geometrical optics methods. These methods can also then be extended to the non-linear problem. One can infer a number of interesting general results from these approximate solutions.

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