

Homeworks of Complex Parxial Wave Theory and Resonators

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1. Problems for 21.6 (3)

Perturbation-insensitive cavity design. Show that the perturbation-insensitive cavity design discussed in this section (spot size at a certain plane insensitive to small focusing perturbations at the same plane) corresponds in general to the condition that $A = -D$ or $m=0$.

2. Prove that “A *Hermite-gaussian beam* into a real *ABCD matrix* produces a *Hermite-gaussian beam out*” using “siegman’s lemma”.