

Generalized Root Locus

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The root locus technique can be used even when the system's adjustable parameter enters in a manner other than that which we've thus far considered (as a gain K). For instance, we can consider a system with open-loop t.f.

$$G(s) = \frac{10}{(s+2)(s+p_1)}$$

The method we shall use is to find the closed-loop t.f., then arrange it such that the denominator is

The usual root locus technique now can be applied with $K=p_1$.

Example

Let's derive a root locus for the system introduced above.