Structured Electronic Design

All-pole loop gain and servo bandwidth

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loop gain-poles (LP) product

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Denominator coefficient of highest order of s determined by loop gain-poles (LP) product

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If all poles are dominant:

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loop gain-poles (LP) product

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$$\omega_n = \sqrt[n]{|\mathrm{LP}_n|} \longleftarrow \text{n-th order LP product}$$

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loop gain-poles (LP) product

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$$\omega_n = \sqrt[n]{\left|\mathrm{LP}_n\right|}$$ ← n-th order LP product