

Routh–Hurwitz Criterion

Necessary & Sufficient Condition for Stability

Terminology: we say that A is a **sufficient condition** for B if

$$A \text{ is true} \implies B \text{ is true}$$

Thus, A is a **necessary and sufficient condition** for B if

$$A \text{ is true} \iff B \text{ is true}$$

— we also say that A is true **if and only if** (iff) B is true.

We will now introduce a necessary and sufficient condition for stability: the *Routh–Hurwitz Criterion*.