Abstracts

Proviso on the Unconditional Stability Criteria for Linear Twoport (Short Papers)

The proviso imposed by Rollett on the well-known stability criteria for linear twoports is examined and redefined as the requirement that at least one set of immittance parameters must have no RHP (right-half plane) poles. It is shown that the proviso can be interpreted as the extreme cases of a newly introduced proviso that requires that the S-parameters defined for at least one pair of arbitrary positive reference impedances have no RHP poles. The new proviso means that the twoport must be stable for at least one pair of arbitrary positive resistance terminations. Since S-parameters are much easier to measure than immittance parameters at microwaves and their direct measurability is an indication of the absence of RHP poles, the new proviso allows us to apply the stability criteria to measured circuits less consciously of the proviso.

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