

# On a Sufficient Condition for the Existence of Stein Neighborhood Bases

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## Abstract

This is a report on work in progress. Sibony showed that if a smooth bounded pseudoconvex domain  $\Omega$  in  $\mathbb{C}^n$  satisfies McNeal's property  $(\tilde{P})$  (or Catlin's property  $(P)$ ), then  $\bar{\Omega}$  has a Stein neighborhood basis. In this talk, we give a sufficient condition that is weaker than property  $(\tilde{P})$  but still implies the existence of a Stein neighborhood basis for the closure. We will give some applications to domains in  $\mathbb{C}^n$  that have plurisubharmonic defining functions and to domains in  $\mathbb{C}^2$  with a defining function that is pluriharmonic on weakly pseudoconvex points.