

# CR invariance of plurisubharmonic defining functions

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**Abstract:** Let  $\Omega, \Omega' \subset \subset \mathbb{C}^n$  be smoothly bounded, pseudoconvex domains, and assume that there exists an orientation preserving CR-diffeomorphism  $f: b\Omega \rightarrow b\Omega'$ . I will show that there exists a smooth defining function  $r$  for  $\Omega$  that is plurisubharmonic on  $b\Omega$  if and only if there exists a smooth defining function  $r'$  for  $\Omega'$  that is plurisubharmonic on  $b\Omega'$ . I will also formulate the property of admitting a defining function that is plurisubharmonic on  $b\Omega$  in a way that only uses the CR structure of  $b\Omega$ , and thus makes sense on an abstract CR manifold.