the implicit function theorem, the map \( \frac{2}{11} \)
is locally invertible if \( \frac{\partial w}{\partial \tilde{w}} = \frac{1}{1/2 \gamma} = \frac{1}{2w} \) exists. So the only problem occurs when \( W = 0 \). However, if \( W = 0 \) is a fixed point, \( (1.2.39) \quad \text{gives} \quad 0 = 0 - \mu \Rightarrow \mu = 0. \)

So, unless \( \mu = 0 \), the map is locally invertible in the neighborhood of any fixed point. Note that when \( \mu = 0 \) the map takes the simple form

\[
W_{n+1} = W_n^2,
\]

in which case the dynamic aperture is the unit disk in the mapping plane.

Note that the change of variables \( (1.2.36) \) is simply a linear transformation plus a translation. Therefore, the dynamic apertures in the \( z \) and \( w \) plane are simply related. In particular, one is