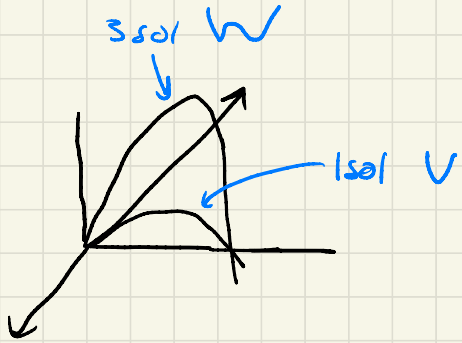
condition

$\omega = A' \sin\frac{\omega}{\sqrt{2}}$



for small ω;

$\sin\frac{\omega}{\sqrt{2}} \approx \frac{\omega}{\sqrt{2}}$

so 1 sol if $|A'| \le \sqrt{2}$

3 sol if $|A'| > \sqrt{2}$

so; A' domain is important.

assume
$$\begin{cases} \psi_{1xdc} = \psi_{2xdc} \\ \psi_{1dc} = \psi_{1xdc} + \epsilon_1 \\ \psi_{2dc} = \psi_{2xdc} + \epsilon_2 \end{cases} \qquad \epsilon_+ \equiv \frac{\epsilon_1 + \epsilon_2}{2} \qquad \epsilon_- = \frac{\epsilon_1 - \epsilon_2}{2}$$

ϵ is small; but NOT zero

$$A'' \equiv \frac{\sqrt{2}}{\beta} A' = \cos\left(\frac{\psi_{1dc} + \psi_{2dc}}{2}\right) + \cos\left(\frac{\psi_{1dc} - \psi_{2dc}}{2}\right)$$

$$A'' = \cos[\psi_{xdc} + \epsilon_+] + \cos(\epsilon_-)$$

$$= \cos\psi_{xdc}\cos\epsilon_+ - \sin\psi_{xdc}\sin\epsilon_+ + \cos\epsilon_-$$

$A'' = \frac{2}{\beta}$ is the critical value where $A' = \sqrt{2}$

examples; assume $\epsilon_\pm = \{-.1, .4\}$; $\beta = 10$

case 1 : $\psi_{xdc} = \pi$; $\cos\epsilon_\mp \to \{.9, 1\}$, $\sin\epsilon_\mp \to \{-.1, .4\}$

$A'' = (-1)\{.9 - 1\} + 0 + \{.9 - 1\}$

$\to -.1 \le A'' \le .1$ ← only 1 well; $\frac{2}{\beta} = .2$

case 2 : $\psi_{xdc} = -2$

$A'' = (-.4)\{.9 - 1\} + (-.9)\{-.1, .4\} + \{.9, 1\}$

$\to .14 \le A'' \le 1$ ← both 1 well and 2 wells possible

NOTE

only is dependent on ψ_{xdc}, β, and $\epsilon_\pm$