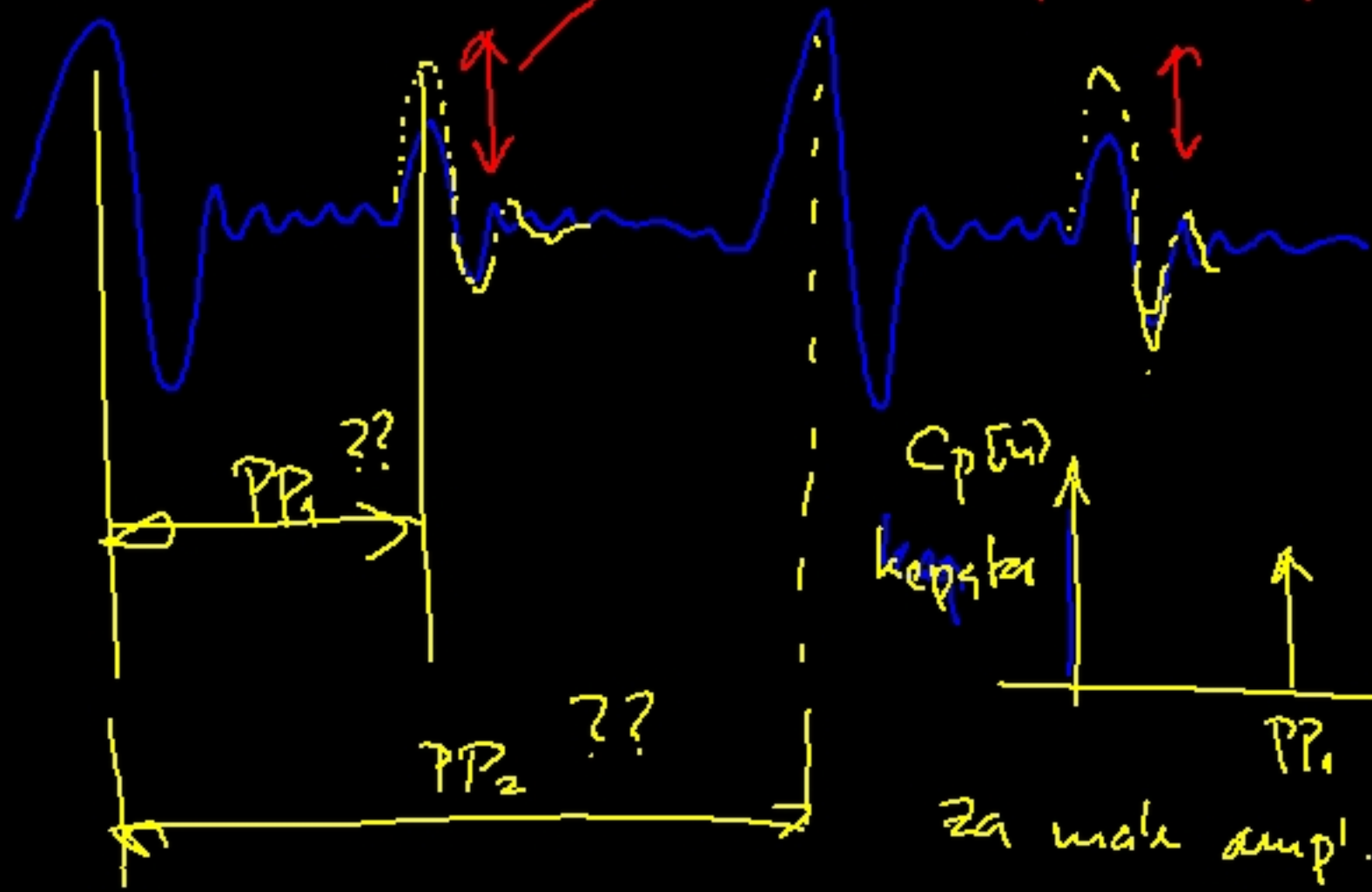


неправильно: пульсация
споров и пульс. ампл.



pitch
находясь
давление

$C_p(t)$
кратка



за велике ампл.



$$k_1 = \frac{A_2 - A_1}{A_2 + A_1}$$

LAR

log. area ratio

$$\frac{1 - k_1}{1 + k_1} = \frac{\cancel{A_2 + A_1} - (A_2 - A_1)}{\cancel{A_2 + A_1}} = \frac{\cancel{A_2} + A_1}{\cancel{A_2} + A_1 + (A_2 - \cancel{A_1})} = \frac{A_1}{A_2} = \frac{A_1}{A_2}$$

$$\left[g_i = \log \left(\frac{1 - k_i}{1 + k_i} \right) = \log \left(\frac{A_i}{A_{i+1}} \right) \right]$$

ako su istog presjeka

ako $A_2 \gg A_1$

ili $A_1 \gg A_2$

$g_i = 0$

log...

negativni broj (vel. k_i)

pozitivni broj (—)

$$p=4$$

$$A(z) = 1 + a_1 z^{-1} + a_2 z^{-2} + \dots + a_4 z^{-4}$$

$$\stackrel{(p+1)}{\downarrow} A(z^{-1}) = 1 + a_1 z + a_2 z^2 + \dots + a_4 z^4$$

$$z^5 A(z^{-1}) = a_4 z^{-1} + a_3 z^{-2} + a_2 z^{-3} + a_1 z^{-4} + z^{-5}$$

$$+ A(z) = 1 + a_1 z^{-1} + a_2 z^{-2} + a_3 z^{-3} + a_4 z^{-4} \quad \text{)} +$$

$$Q(z) = 1 + (a_1 + a_4) z^{-1} + (a_2 + a_3) z^{-2} + (a_2 + a_3) z^{-3} + (a_1 + a_4) z^{-4} + z^{-5}$$

$$Q(z) = A(z) + z^{-(p+1)} A(z^{-1}) \quad \text{)} + \cdot \frac{1}{2} \Rightarrow A(z)$$

$$R(z) = A(z) - z^{-(p+1)} A(z^{-1}) \quad \text{)} + \cdot \frac{1}{2} \Rightarrow A(z)$$

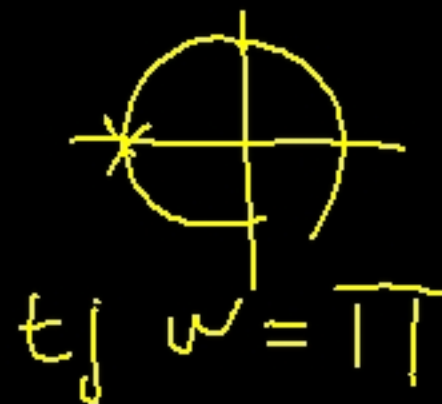
$$P(z) = 1 + (a_1 - a_4)z^{-1} + (a_2 - a_3)z^{-2} - z^{-3} - (a_1 - a_4)z^{-4} - (a_2 - a_3)z^{-3}$$

asym.

$R(z), Q(z) \dots$ reda p+1

$Q(z=1) = \emptyset \dots$ mit Nullen $z_1, z_2, z_3, z_4, z_5, z_6, z_7, z_8, z_9, z_{10}, z_{11}, z_{12}, z_{13}, z_{14}, z_{15}, z_{16}, z_{17}, z_{18}, z_{19}, z_{20}, z_{21}, z_{22}, z_{23}, z_{24}, z_{25}, z_{26}, z_{27}, z_{28}, z_{29}, z_{30}, z_{31}, z_{32}, z_{33}, z_{34}, z_{35}, z_{36}, z_{37}, z_{38}, z_{39}, z_{40}, z_{41}, z_{42}, z_{43}, z_{44}, z_{45}, z_{46}, z_{47}, z_{48}, z_{49}, z_{50}, z_{51}, z_{52}, z_{53}, z_{54}, z_{55}, z_{56}, z_{57}, z_{58}, z_{59}, z_{60}, z_{61}, z_{62}, z_{63}, z_{64}, z_{65}, z_{66}, z_{67}, z_{68}, z_{69}, z_{70}, z_{71}, z_{72}, z_{73}, z_{74}, z_{75}, z_{76}, z_{77}, z_{78}, z_{79}, z_{80}, z_{81}, z_{82}, z_{83}, z_{84}, z_{85}, z_{86}, z_{87}, z_{88}, z_{89}, z_{90}, z_{91}, z_{92}, z_{93}, z_{94}, z_{95}, z_{96}, z_{97}, z_{98}, z_{99}, z_{100}$

$R(z=1) = \emptyset \dots$ mit Nullen
 $z=1, w=0$



$$Q'(z) = Q(z) / (1 - (-1)z^{-1}) \leftarrow (1 + z^{-1})$$

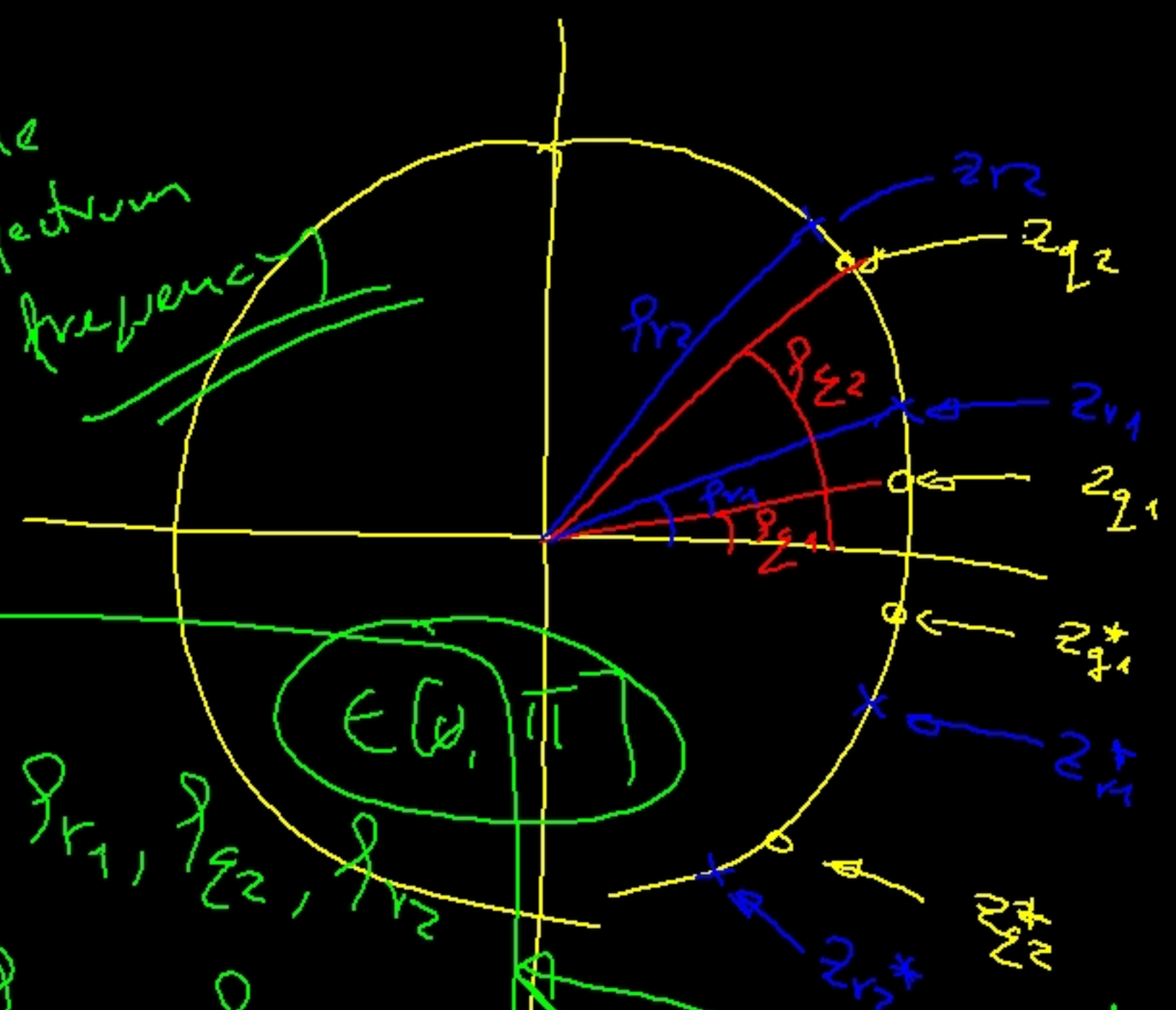
$$R'(z) = R(z) / (1 - (1)z^{-1}) \leftarrow (1 - z^{-1})$$

$Q'(z), R'(z) \dots$ polinomima, kada p
gdje su nule ude?

$$\Rightarrow \text{za stabilu: } H(z) = \frac{1}{A(z)}$$

nule od $Q'(z)$ i $R'(z)$ su na jed. kružnici
(opisane samo kutovima) $r=1$

Line spectrum frequency



$E[\omega, \pi]$
 $\phi_{z1}, \phi_{p1}, \phi_{z2}, \phi_{p2}$
 $\dots \phi_{zpk/2}, \phi_{pk/2}$

kontur koji jednokratno opisuje $R(z), Q(z)$