Example 4.5

Q Examine the stability of CE

Solution

$|a_4| = 0.08 < a_0 = 1$ ✓

$P(z)|_{z=1} = 1 - 1.2 + 0.07 + 0.3 - 0.03 = 0.14 > 0$ ✓

$n = 4$ even $>$

$P(z)|_{z=-1} = 1 + 1.2 + 0.07 - 0.3 - 0.08$

$= 1.89 > 0$ ✓

Table.

Row	z^0	z^1	z^2	z^3	z^4
1	-0.08	0.3	0.07	-1.2	1
2	1	-1.2	0.07	0.3	-0.08
3	-0.9936	1.176	-0.0756	-0.204	
4	-0.204	-0.0756	1.176	-0.9936	
5	C_2	C_1	C_0		

$b_0 = \begin{vmatrix} -0.08 & 0.3 \\ 1 & -1.2 \end{vmatrix}$

$= -0.204$

$b_3 = \begin{vmatrix} -0.08 & 1 \\ 1 & -0.08 \end{vmatrix}$

$= -0.9936$

$b_1 = \begin{vmatrix} -0.08 & 0.07 \\ 1 & 0.07 \end{vmatrix} = -0.0756$

$b_2 = \begin{vmatrix} -0.08 & -1.2 \\ 1 & 0.3 \end{vmatrix} = 1.176$

$|b_3| = 0.9936$

$> |b_0| = 0.204$ ✓

$$C_0 = \begin{vmatrix} -0.9936 & 1.176 \\ -0.204 & -0.0756 \end{vmatrix} = 0.3150$$

$$C_2 = \begin{vmatrix} -0.9936 & -0.204 \\ -0.204 & -0.9936 \end{vmatrix} = 0.9456$$

$|C_2| = 0.9456 >$

$|C_0| = 0.3150$

✓

Hence, the CE is stable.

测条件满足不

	z^0	z^1	z^2	z^3	z^4
1	-0.08	0.3	0.07	-1.2	(1) 大
2	1	-1.2	0.07	0.3	-0.08
3	(-0.9936) *	1.176	-0.0756	-0.204	
4	-0.204	-0.0756	1.176	-0.9936	
5	(0.945)	✓	0.315		

大

$-0.08 < |1|$ ✓

$p(1) = 0.092$ ✓

$p(-1) = 1.892 > 0$

$n = 4 > 0$

$|b_4| > |b_0|$

$0.9936 > 0.204$ ✓