Radna prava, detaljno izvođenje

stvarna radna prava:

$$\frac{v_{CE}}{V_{CC}} = 1 - \frac{1}{2}\left(\frac{i_C}{I_{CQ}} - \frac{I_{CQ}}{i_C}\right) \tag{1}$$

$$\frac{i_C}{I_{CQ}} = 1 - \frac{v_{CE}}{V_{CC}} + \sqrt{2 - 2\,\frac{v_{CE}}{V_{CC}} + \left(\frac{v_{CE}}{V_{CC}}\right)^2} \tag{2}$$

linearizovana radna prava:

$$\frac{i_C}{I_{CQ}} = 2 - \frac{v_{CE}}{V_{CC}} \tag{3}$$

hiperbola snage:

$$\frac{i_C}{I_{CQ}} = \frac{V_{CC}}{v_{CE}} \tag{4}$$

stvarna disipacija:

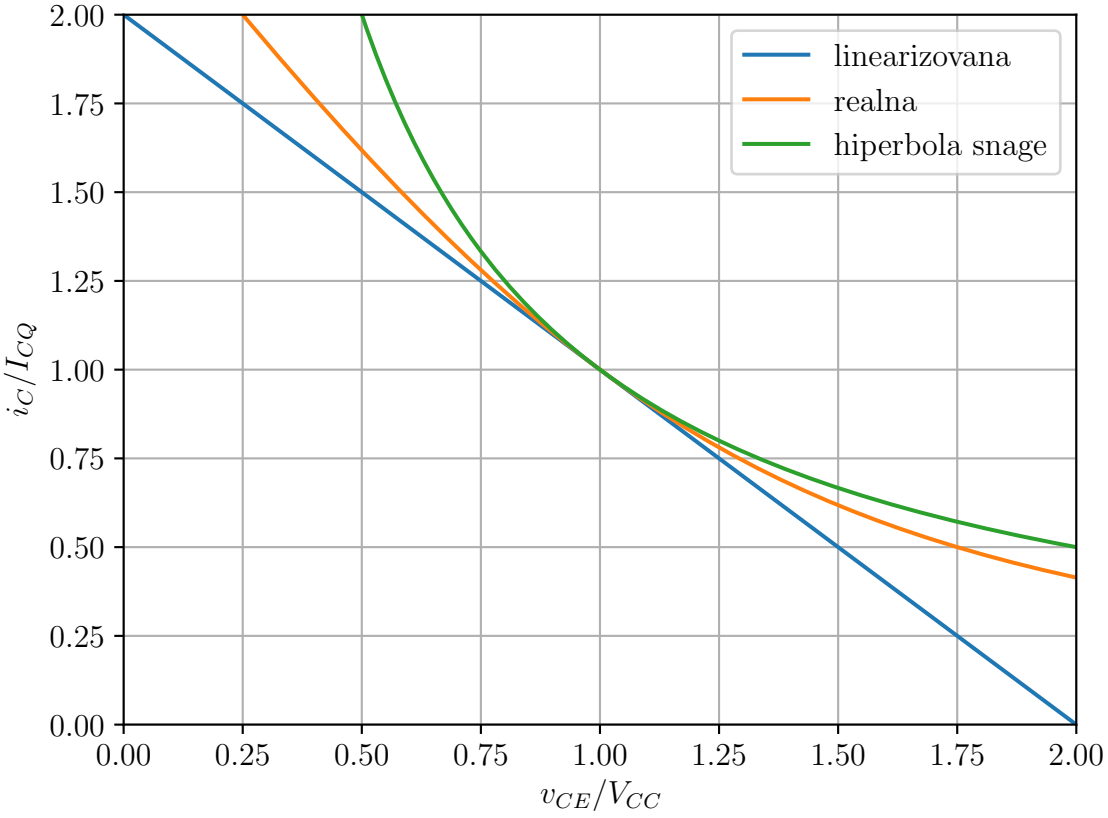
$$\frac{p_D}{V_{CC}\,I_{CQ}} = \frac{v_{CE}}{V_{CC}}\left(1 - \frac{v_{CE}}{V_{CC}} + \sqrt{2 - 2\,\frac{v_{CE}}{V_{CC}} + \left(\frac{v_{CE}}{V_{CC}}\right)^2}\right) \tag{5}$$

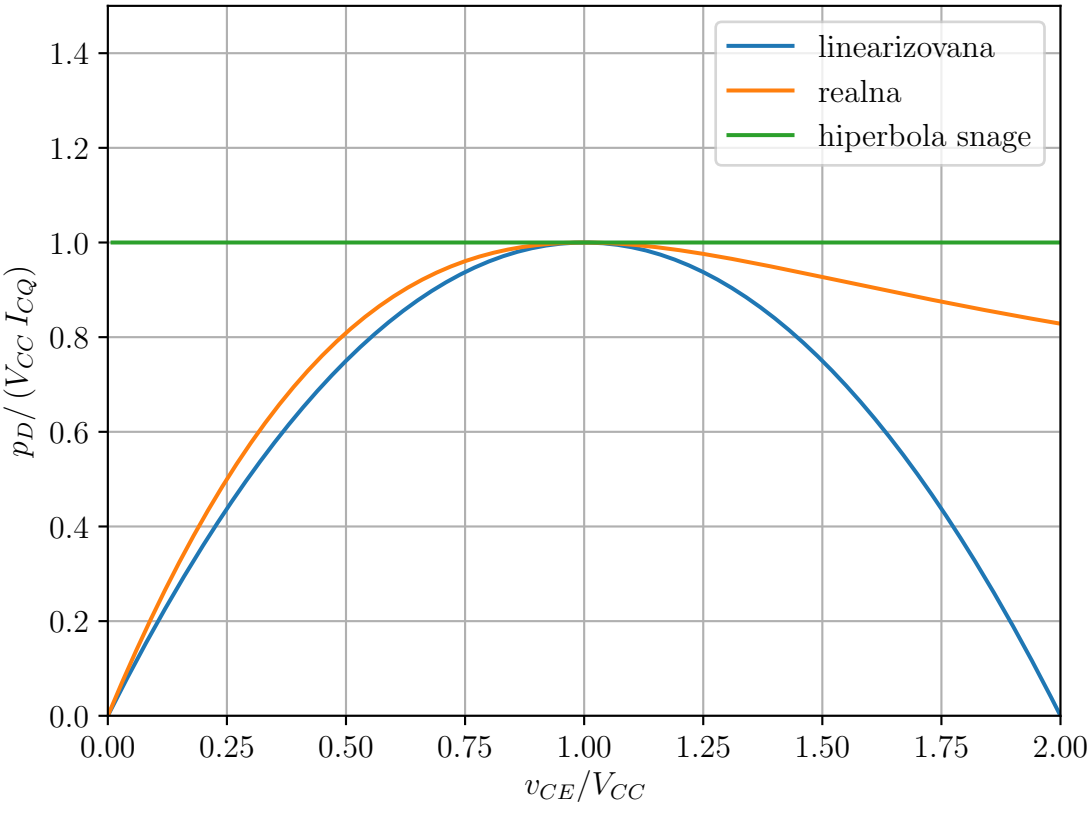
disipacija linearizovanog modela:

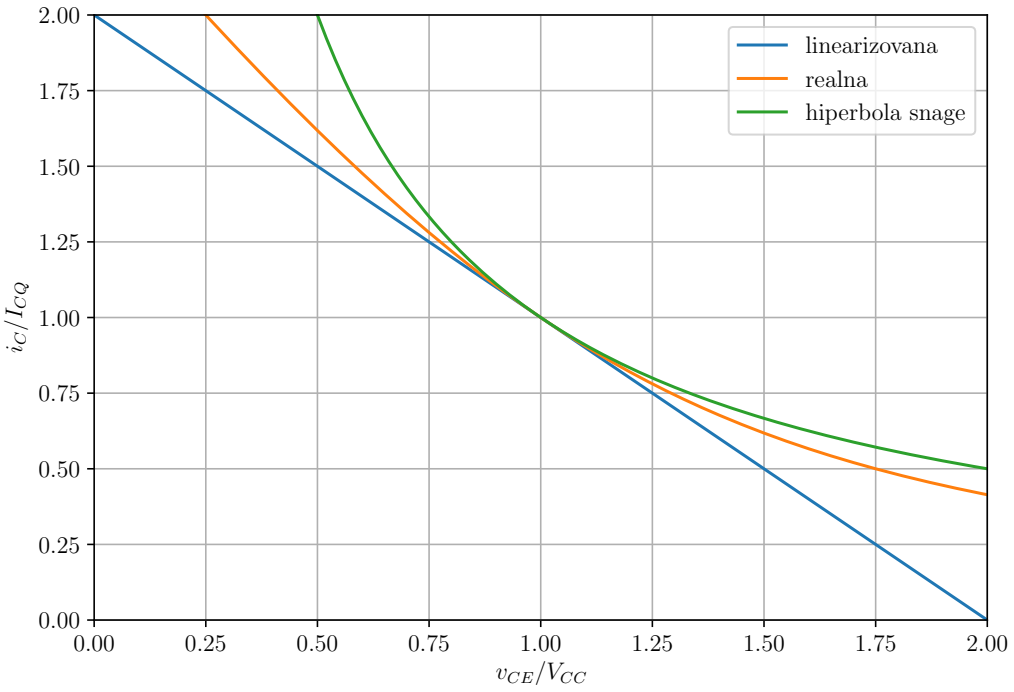
$$\frac{p_D}{V_{CC}\,I_{CQ}} = \frac{v_{CE}}{V_{CC}}\left(2 - \frac{v_{CE}}{V_{CC}}\right) \tag{6}$$

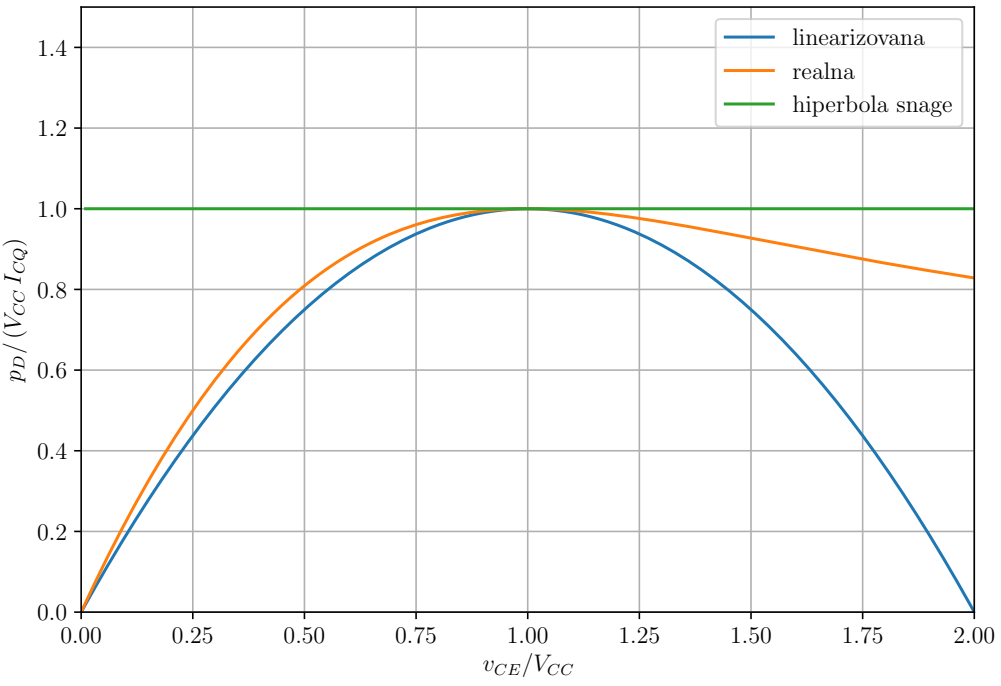
disipacija na hiperboli snage:

$$\frac{p_D}{V_{CC}\,I_{CQ}} = 1 \tag{7}$$


linearizovana
realna
hiperbola snage
i_C/I_{CQ}
v_{CE}/V_{CC}
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00


linearizovana
realna
hiperbola snage
$p_D/(V_{CC}\,I_{CQ})$
v_{CE}/V_{CC}
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00


linearizovana
realna
hiperbola snage
i_C/I_{CQ}
v_{CE}/V_{CC}
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00


linearizovana
realna
hiperbola snage
$p_D/(V_{CC}\,I_{CQ})$
v_{CE}/V_{CC}
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00