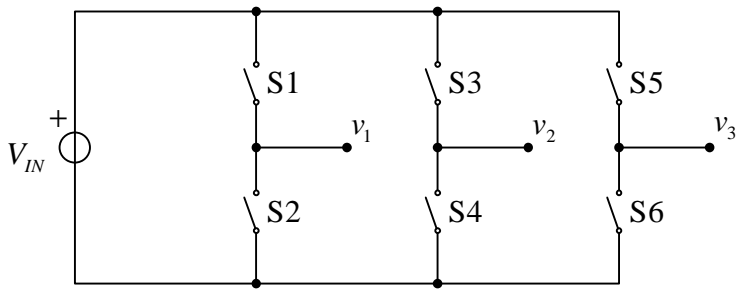


## Space Vector Modulation (SVM)

Invertor:



Prekidači:  $S2 = \overline{S1}$ ,  $S4 = \overline{S3}$ ,  $S6 = \overline{S5}$

Fazni i linijski naponi:

$$\begin{bmatrix} v_{12} \\ v_{23} \\ v_{31} \end{bmatrix} = \begin{bmatrix} 1 & -1 & 0 \\ 0 & 1 & -1 \\ -1 & 0 & 1 \end{bmatrix} \begin{bmatrix} v_1 \\ v_2 \\ v_3 \end{bmatrix}$$

$$v_{12} + v_{23} + v_{31} = 0$$

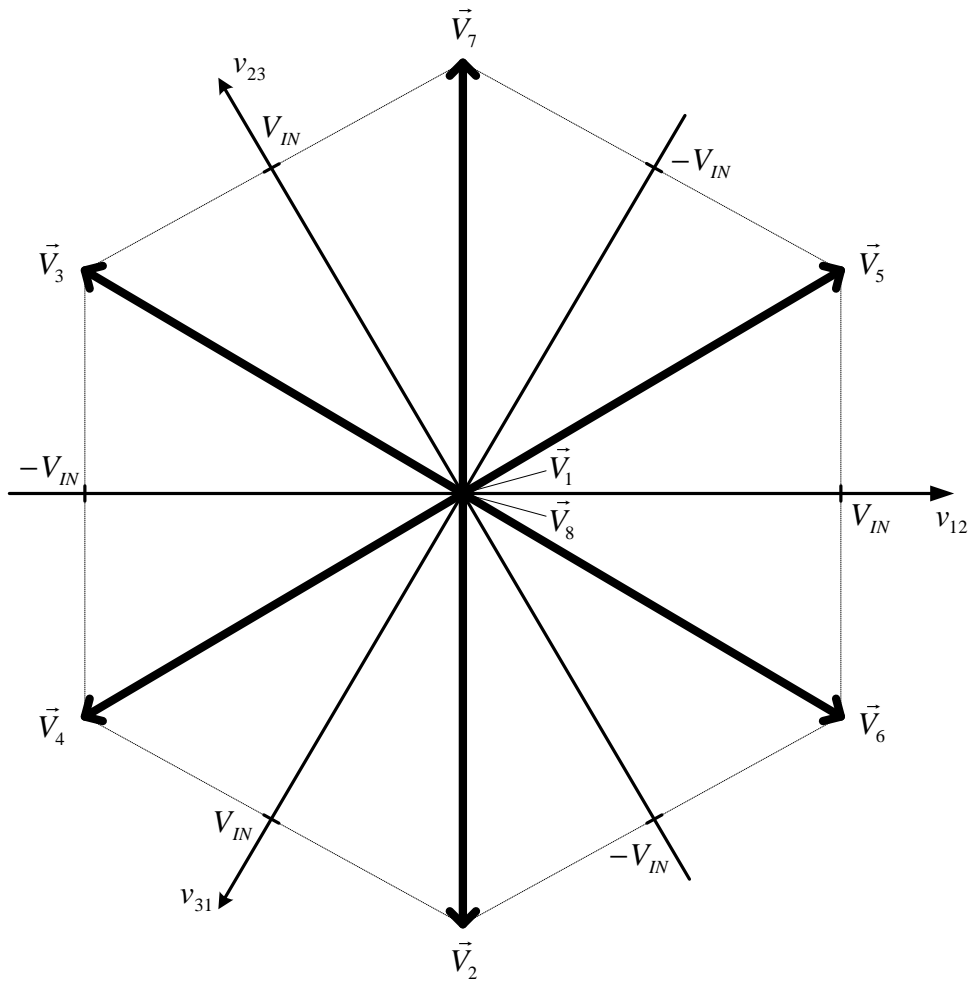
Inverzija u opštem slučaju ne može, singularna matrica. Poseban slučaj  $v_1 + v_2 + v_3 = 0$ :

$$\begin{bmatrix} v_1 \\ v_2 \\ v_3 \end{bmatrix} = \frac{1}{3} \begin{bmatrix} 1 & 0 & -1 \\ -1 & 1 & 0 \\ 0 & -1 & 1 \end{bmatrix} \begin{bmatrix} v_{12} \\ v_{23} \\ v_{31} \end{bmatrix}$$

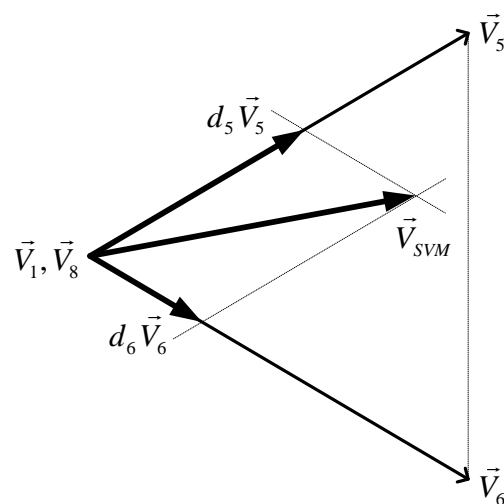
Kombinacije:

n	S1	S3	S5	$v_{12}$	$v_{23}$	$v_{31}$
1	0	0	0	0	0	0
2	0	0	1	0	$-V_{IN}$	$V_{IN}$
3	0	1	0	$-V_{IN}$	$V_{IN}$	0
4	0	1	1	$-V_{IN}$	0	$V_{IN}$
5	1	0	0	$V_{IN}$	0	$-V_{IN}$
6	1	0	1	$V_{IN}$	$-V_{IN}$	0
7	1	1	0	0	$V_{IN}$	$-V_{IN}$
8	1	1	1	0	0	0

Fazori koje može da generiše inverter:



Usrednjeni fazori, modulacija fazora:



$$\vec{V}_{SVM} = d_6 \vec{V}_6 + d_5 \vec{V}_5 + d_0 \vec{0} = d_6 \vec{V}_6 + d_5 \vec{V}_5 + d_1 \vec{V}_1 + d_8 \vec{V}_8, \quad d_5 + d_6 \leq 1, \quad d_5 + d_6 + d_0 = 1$$