# Connection to Lovász-Schrijver Procedures:

**Theorem:** Suppose $\mathcal{P}_F$ contains $\pm x_i(1-x_i) \geq 0$, $\forall\, i \in \{1,2,\ldots,n\}$. Let $C_t$ be generated by $D_1 := \{\pm e_i : i \in \{1,2,\ldots,n\}\}$, $D_2 := S^n$. Then

$$N_+^k(K_0) = \text{cone}\left\{\begin{pmatrix}1\\ x\end{pmatrix} : x \in C_k\right\}, \quad \text{SSDPR}$$

$$N^k(K_0) = \text{cone}\left\{\begin{pmatrix}1\\ x\end{pmatrix} : x \in C_k\right\}. \quad \text{SSILPR}$$

Kojima, T. (Math. Prog. [2000])

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NOTE that the discretized alg.s with small subsets $D_2$ may generate much worse $\{C_k\}$.