2023-10-24

$F(x)$

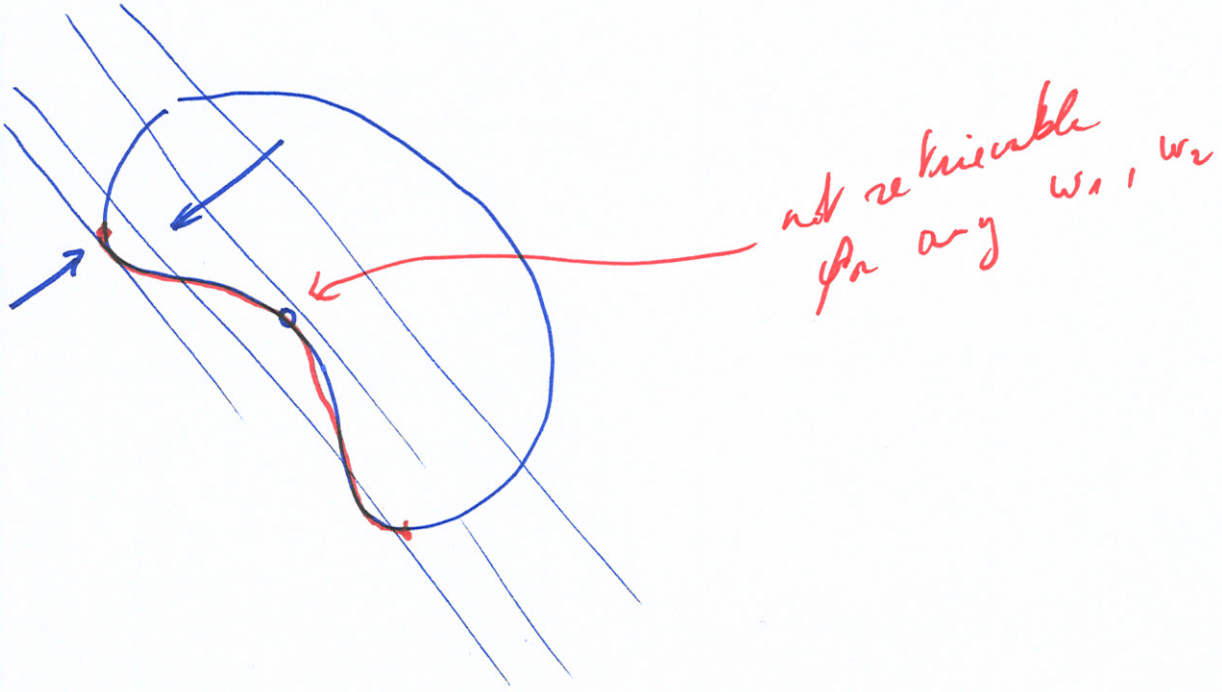
$x \in \mathbb{R}^n$

$$\begin{bmatrix} F_1(x) \\ F_2(x) \\ \vdots \\ F_m(x) \end{bmatrix}$$

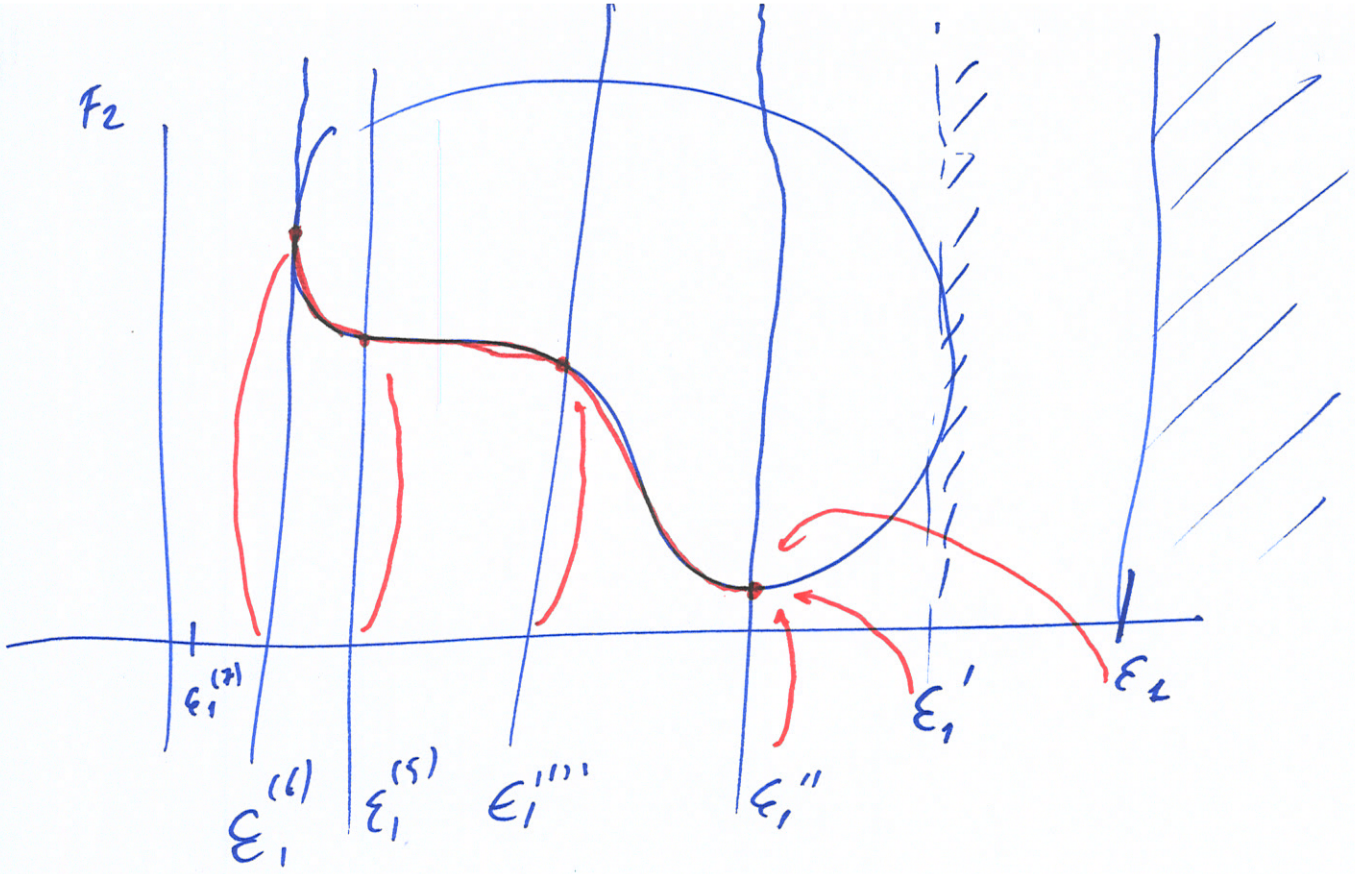
speed
comfort
price
volume

$$\begin{bmatrix} 1 \\ 2 \end{bmatrix} \leq \begin{bmatrix} 3 \\ 4 \end{bmatrix}$$

$$\begin{bmatrix} 1 \\ 2 \end{bmatrix} \not\leq \begin{bmatrix} 2 \\ 0 \end{bmatrix}$$



(2)


F_2
$\varepsilon_1^{(7)}$
$\varepsilon_1^{(6)}$
$\varepsilon_1^{(5)}$
ε_1'''
ε_1''
ε_1'
ε_1

(3)

$$\min_{x,\gamma} \ \gamma$$

goal attainment

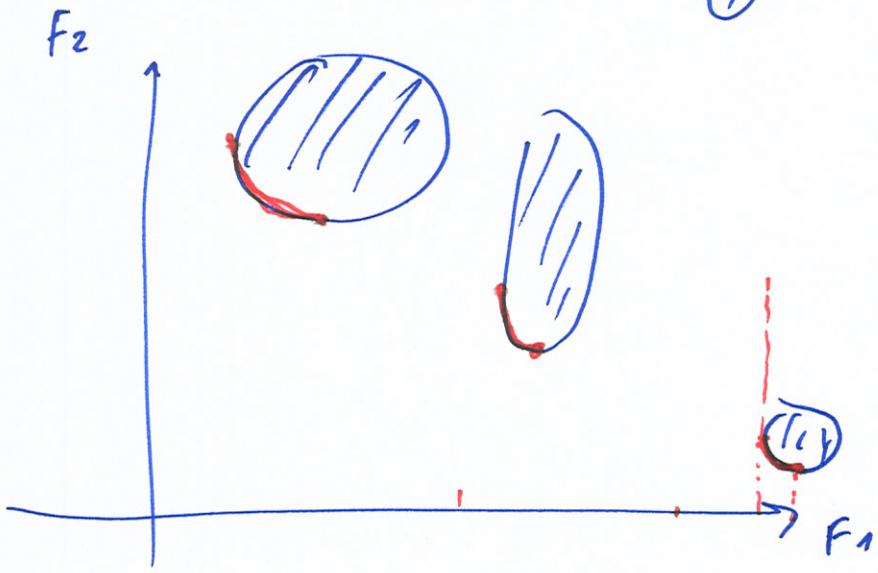
$$F_i(x) \leq F_i^{goal} + w_i \gamma$$

$$g(x) \leq 0$$

$$h(x) = 0$$

---

(4)



Pareto optimal point
(→ ε constraint)