

نوعی از تبدیل در \$n\$

$$x = F \cdot x$$

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$$Qx = F'Qx$$

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$$x = \underbrace{Q^T F' Q}_F x$$

$$\Rightarrow F = Q^T F' Q$$

$$\&$$

$$F' = Q F Q^T$$

$$F \Rightarrow E \Rightarrow T$$

$$\begin{array}{ccc} F' & \Rightarrow & E' \Rightarrow T' \\ \parallel & & \parallel \\ QFQ^T & & QEQ^T \quad QTQ^T \end{array}$$

مثال ٥

$$x = F x$$

$$O P_1 = F O P_2$$

$$O Q_1 = F O Q_2$$

$$\underline{O Q_2 = R_1 O P_2} \quad F R_1 O P_2$$

$$O Q_2 = R_1 O P_2 \neq O Q_1 (= F R_1 O P_2)$$

$$\Rightarrow R_1 x \neq F R_1 x \quad (x \in \mathbb{R})$$

$$x = F x$$

$$R_1 x = F' R_1 x$$

$$x = R_1^T \underbrace{F' R_1}_F x$$

$$\Rightarrow F = R_1^T F' R_1 \quad \& \quad F' = R_1 F R_1^T$$

$$\Rightarrow T' = R_1 T R_1^T$$