有
$$eta=egin{array}{c} -3 \ 2 \ -4 \ \end{array}$$
,问 eta 能否用 $lpha_1=egin{array}{c} 1 \ 0 \ 1 \ \end{array}$, $lpha_2=egin{array}{c} 2 \ 1 \ 0 \ \end{array}$, $lpha_3=egin{array}{c} -1 \ 1 \ -2 \ \end{array}$ 来线性表示?

解:设 $eta=k_1lpha_1+k_2lpha_2+k_3lpha_3$
即 $egin{array}{c} -3 \ 2 \ 2 \ \end{array}$ $=k_1egin{array}{c} 1 \ 0 \ \end{array}$ $+k_2egin{array}{c} 1 \ 1 \ \end{array}$

$$\begin{cases} k_t + 1 \end{cases}$$

FFLY $\beta = 2\alpha_1 + -\alpha_2 + 3\alpha_3$

$$\begin{cases} k_1 + 2k_2 - k_3 = -3 \\ k_2 + k_3 = 2 \\ -2k_3 = -4 \end{cases} \rightarrow \begin{cases} k_1 = 2 \\ k_2 = -1 \\ k_3 = 3 \end{cases}$$