

PG No. 10  $S_4$   $\bar{4}$  [ tetragonal ]

Table 1: Representation matrices

Irrep.									
$A$	$1 :$	$\begin{bmatrix} 1 \end{bmatrix}$	$2_{001} :$	$\begin{bmatrix} 1 \end{bmatrix}$	$-4^+_{001} :$	$\begin{bmatrix} 1 \end{bmatrix}$	$-4^-_{001} :$	$\begin{bmatrix} 1 \end{bmatrix}$	
$B$	$1 :$	$\begin{bmatrix} 1 \end{bmatrix}$	$2_{001} :$	$\begin{bmatrix} 1 \end{bmatrix}$	$-4^+_{001} :$	$\begin{bmatrix} -1 \end{bmatrix}$	$-4^-_{001} :$	$\begin{bmatrix} -1 \end{bmatrix}$	
$E$	$1 :$	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	$2_{001} :$	$\begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}$	$-4^+_{001} :$	$\begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$	$-4^-_{001} :$	$\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix}$	