Table 2. Rotation matrices and angle recalculation for a general case. Following notations are used for brevity : $c\alpha=\cos\alpha$, $c\theta1=\cos\theta_1$, $s\alpha=\sin\alpha$, $s\theta1=\sin\theta_1$, etc; $c^2\alpha=\cos\alpha\cdot\cos\alpha$, $s^2\alpha=\sin\alpha\cdot\sin\alpha$, etc; $R_{jk}=R(j,k)$ is the k-th element of the j-th line of the rotation matrix; $\xi=\mathrm{atan2}(q_1,q_2)$ stands for the angle ξ for with $\sin\xi=k\cdot q_1$ and $\cos\xi=k\cdot q_2$, where k and is a positive normalising factor (definition corresponds to the inserted FORTRAN function atan2)

System	Matrix			Solution for a general case
Polar Rossmann,1962	$c\kappa+(1-c\kappa)\cdot s^2\psi\cdot c^2\phi$ $s\psi\cdot[(1-c\kappa)\cdot c\psi\cdot c\phi+s\kappa\cdot s\phi]$ $-(1-c\kappa)\cdot s^2\psi\cdot c\phi\cdot s\phi+s\kappa\cdot c\psi$	$s\psi\cdot[(1-c\kappa)\cdot c\psi\cdot c\phi-s\kappa\cdot s\phi]$ $c\kappa+(1-c\kappa)\cdot c^2\psi$ $-s\psi\cdot[(1-c\kappa)\cdot c\psi\cdot s\phi+s\kappa\cdot c\phi]$	$-(1-c\kappa)\cdot s^2\psi\cdot c\phi\cdot s\phi-s\kappa\cdot c\psi$ $-s\psi\cdot[(1-c\kappa)\cdot c\psi\cdot s\phi-s\kappa\cdot c\phi]$ $c\kappa+(1-c\kappa)\cdot s^2\psi\cdot s^2\phi$	$\cos\kappa=(R_{11}+R_{22}+R_{33}-1)/2$ $tg\phi=-(R_{12}-R_{21})/(R_{23}-R_{32})$ $tg\psi\cdot\cos\phi=-(R_{23}-R_{32})/(R_{13}-R_{31})$
Polar Crowther,1972 Dodson, 1966 ($\psi=\omega$)	$c\kappa+(1-c\kappa)\cdot s^2\omega\cdot c^2\phi$ $(1-c\kappa)\cdot s^2\omega\cdot c\phi\cdot s\phi-s\kappa\cdot c\omega$ $s\omega\cdot[(1-c\kappa)\cdot c\omega\cdot c\phi+s\kappa\cdot s\phi]$	$(1-c\kappa)\cdot s^2\omega\cdot c\phi\cdot s\phi+s\kappa\cdot c\omega$ $c\kappa+(1-c\kappa)\cdot s^2\omega\cdot s^2\phi$ $s\omega\cdot[(1-c\kappa)\cdot c\omega\cdot s\phi-s\kappa\cdot c\phi]$	$s\omega\cdot[(1-c\kappa)\cdot c\omega\cdot c\phi-s\kappa\cdot s\phi]$ $s\omega\cdot[(1-c\kappa)\cdot c\omega\cdot s\phi+s\kappa\cdot c\phi]$ $c\kappa+(1-c\kappa)\cdot c^2\omega$	$\cos\kappa=(R_{11}+R_{22}+R_{33}-1)/2$ $tg\phi=-(R_{13}-R_{31})/(R_{23}-R_{32})$ $tg\omega\cdot\cos\phi=-(R_{23}-R_{32})/(R_{12}-R_{21})$
Direction cosines	$c\kappa+(1-c\kappa)\cdot cx^2$ $(1-c\kappa)\cdot cx\cdot cy+s\kappa\cdot cz$ $(1-c\kappa)\cdot cz\cdot cx-s\kappa\cdot cy$	$(1-c\kappa)\cdot cx\cdot cy-s\kappa\cdot cz$ $c\kappa+(1-c\kappa)\cdot cy^2$ $(1-c\kappa)\cdot cz\cdot cy+s\kappa\cdot cx$	$(1-c\kappa)\cdot cz\cdot cx+s\kappa\cdot cy$ $(1-c\kappa)\cdot cz\cdot cy-s\kappa\cdot cx$ $c\kappa+(1-c\kappa)\cdot cz^2$	$\cos\kappa=(R_{11}+R_{22}+R_{33}-1)/2$ $\cos z/\cos x=(R_{12}-R_{21})/(R_{23}-R_{32})$ $\cos y/\cos x=-(R_{13}-R_{31})/(R_{23}-R_{32})$
Eulerian Rossmann,1962	$-s\theta1\cdot c\theta2\cdot s\theta3+c\theta1\cdot c\theta3$ $-s\theta1\cdot c\theta2\cdot c\theta3-c\theta1\cdot s\theta3$ $s\theta1\cdot s\theta2$	$c\theta1\cdot c\theta2\cdot s\theta3+s\theta1\cdot c\theta3$ $c\theta1\cdot c\theta2\cdot c\theta3-s\theta1\cdot s\theta3$ $-c\theta1\cdot s\theta2$	$s\theta2\cdot s\theta3$ $s\theta2\cdot c\theta3$ $c\theta2$	$\theta_1=\mathrm{atan2}(R_{31},-R_{32})$ $\cos\theta_2=R_{33}$ $\theta_3=\mathrm{atan2}(R_{13}, R_{23})$
Eulerian Lattmann,1966	$[(1-c\theta2)\cdot c\theta_-+(1+c\theta2)\cdot c\theta_+]/2$ $[(1-c\theta2)\cdot s\theta_--(1+c\theta2)\cdot s\theta_+]/2$ $\sin[(\theta_++\theta_-)/2]\cdot s\theta2$	$[(1-c\theta2)\cdot s\theta_-+(1+c\theta2)\cdot s\theta_+]/2$ $[(1+c\theta2)\cdot c\theta_+-(1-c\theta2)\cdot c\theta_-]/2$ $-\cos[(\theta_++\theta_-)/2]\cdot s\theta2$	$\sin[(\theta_+-\theta_-)/2]\ s\theta2$ $\cos[(\theta_+-\theta_-)/2]\ s\theta2$ $c\theta2$	$\theta_+=\mathrm{atan2}(R_{31},-R_{32})+\mathrm{atan2}(R_{13}, R_{23})$ $\cos\theta_2=R_{33}$ $\theta_-=\mathrm{atan2}(R_{31},-R_{32})-\mathrm{atan2}(R_{13}, R_{23})$
Eulerian Crowther,1972	$c\alpha\cdot c\beta\cdot c\gamma-s\alpha\cdot s\gamma$ $-c\alpha\cdot c\beta\cdot s\gamma-s\alpha\cdot c\gamma$ $c\alpha\cdot s\beta$	$s\alpha\cdot c\beta\cdot c\gamma+c\alpha\cdot s\gamma$ $-s\alpha\cdot c\beta\cdot s\gamma+c\alpha\cdot c\gamma$ $s\alpha\cdot s\beta$	$-s\beta\cdot c\gamma$ $s\beta\cdot s\gamma$ $c\beta$	$\alpha=\mathrm{atan2}(R_{32}, R_{31})$ $\cos\beta=R_{33}$ $\gamma=\mathrm{atan2}(R_{23},-R_{13})$
Eulerian Nordman,1966	$c\theta$ $s\phi\cdot s\theta$ $c\phi\cdot s\theta$	$s\theta\cdot s\psi$ $-s\phi\cdot c\theta\cdot s\psi+c\phi\cdot c\psi$ $-c\phi\cdot c\theta\cdot s\psi-s\phi\cdot c\psi$	$-s\theta\cdot c\psi$ $s\phi\cdot c\theta\cdot c\psi+c\phi\cdot s\psi$ $c\phi\cdot c\theta\cdot c\psi-s\phi\cdot s\psi$	$\phi=\mathrm{atan2}(R_{21},R_{31})$ $\cos\theta=R_{11}$ $\psi=\mathrm{atan2}(R_{12}, -R_{13})$
Eulerian Huber,1969	$c\psi\cdot c\phi-s\psi\cdot s\theta\cdot s\phi$ $s\psi\cdot c\phi+c\psi\cdot s\theta\cdot s\phi$ $-c\theta\cdot s\phi$	$-s\psi\cdot c\theta$ $c\psi\cdot c\theta$ $s\theta$	$c\psi\cdot s\phi+s\psi\cdot s\theta\cdot c\phi$ $s\psi\cdot s\phi-c\psi\cdot s\theta\cdot c\phi$ $c\theta\cdot c\phi$	$\phi=\mathrm{atan2}(-R_{31},R_{33})$ $\sin\theta=R_{32}$ $\psi=\mathrm{atan2}(-R_{12}, R_{22})$
Eulerian Navaza, 1994	$c\alpha\cdot c\beta\cdot c\gamma-s\alpha\cdot s\gamma$ $s\alpha\cdot c\beta\cdot c\gamma+c\alpha\cdot s\gamma$ $-s\beta\cdot c\gamma$	$-c\alpha\cdot c\beta\cdot s\gamma-s\alpha\cdot c\gamma$ $-s\alpha\cdot c\beta\cdot s\gamma+c\alpha\cdot c\gamma$ $s\beta\cdot s\gamma$	$c\alpha\cdot s\beta$ $s\alpha\cdot s\beta$ $c\beta$	$\alpha=\mathrm{atan2}(R_{23},-R_{13})$ $\cos\beta=R_{33}$ $\gamma=\mathrm{atan2}(R_{32}, R_{31})$