Chapter 4

CONCLUSION

In this research, we found the solution $u(x)$ of the equation

$$\oplus^k(\oplus+m^2)^k u(x) = f\big(x, \triangle^{k-1}\Box^k L_1^k L_2^k(\oplus+m^2)^k u(x)\big)$$

where the existence of the solution $u(x)$ of such equation depends on the conditions of f and $\triangle^{k-1}\Box^k L_1^k L_2^k(\oplus+m^2)^k u(x)$. Moreover if we put $\alpha=\gamma=\nu=-2r$ and $\beta=\eta=2k$ in equation (2.29), we obtain $Y_{-2r,2k,-2r,-2r}(u,v,w,z,m)$ is an elementary solution of $(\triangle+m^2)^k$ operator. Thus we have the solution $V(x) = (-1)^{k-1}R^e_{2(1-k)}(v)*(i)^{q/2}T_{-2k}(z)*(-i)^{q/2}S_{-2k}(w)*u(x)$ as a solution of the equation $\Box^k(\triangle+m^2)^k V(x) = W(x)$. next, if we put $k=1, p=n$ and $q=0$, then the solution $V(x)$ is the solution of the inhomogeneous biharmonic equation $\triangle^2 V(x) = g(x,\triangle V(x))$ where $g(x,\triangle V(x)) = W(x) - m^2\triangle V(x)$.