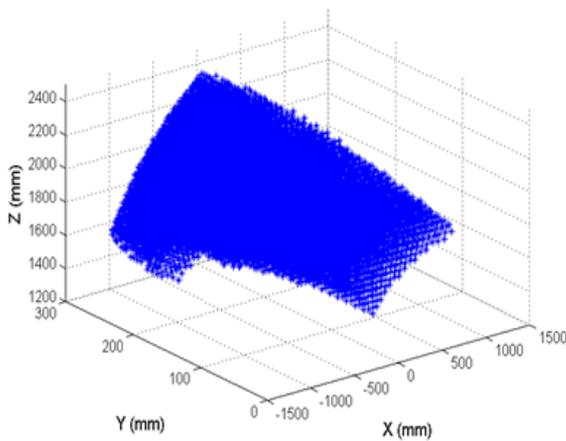


(c) $m=800, n=1000, k=300$



(d) $m=1000, n=1000, k=300$

Figure 5. Schematic diagram of the reachable workspace of the mechanism under different structural parameters

4. CONCLUSIONS

By comparing the reachable workspace of different structure parameters, some conclusions can be listed as followed:

(1) when the structure parameter K , the value of M is the same, the value of n is not the same, the mechanism can obtain the reachable working space in the Y direction, the projection range is mm $0 \sim k$. through the analysis of the structure constraint equation (3-1), The reachable workspace volume is larger: when the value of n decreases, the absolute values of Y direction limit angle α_{\max} and α_{\min} are become lager, the range of A are also getting lager.

(2) when the value of the structural parameters m, n are the same, the K value is not the same, the larger value of K the lager reachable workspace volume, because by the moving platform positional formula (2-16) analysis: when k decreases, the positional solution of Y direction decreases, scope of the institutions on a point of the reachable position also getting smaller.

(3) when the structure parameter K , the value of n is the same, the value of M is not the same, the mechanism can

obtain the reachable working space in the Y direction, the projection range is $0 \sim k$ mm. The reachable workspace volume is larger, by the analysis of the structure constraint equation (3-1) ~ (3-3), when the value of M decreases and the absolute value of Y direction limit angle and β increases, the range of A on the manipulator can also increases.

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