**Workspace of Stewart Platform**

**Case 1:**

Distance between platforms: **20cm**

Servo arm length:**5cm**

Platform radius=**15cm**

Base radius= **20cm**

Length of each leg=**25.44cm**

Assuming the servo can make the arm rotate up to 80 degree.

|  |  |
| --- | --- |
| State | Maximum Value Attainable(Simultaneously) |
| X | +/-3cm |
| Y | +/-3cm |
| Z | +/-3cm |
| phi | +/-10degree |
| theta | +/-10degree |
| psi | +/-10degree |

Force on each leg will come around (**2N-4N**) for this configuration for a frequency ranging from (**5hz-10hz**) and amplitude of the order of **0.1rad/s**.(Assuming mass of platform is **2kg**).

Servo torque rating is sufficient for this (8.5kg.cm).

Phi/theta/psi=**20** degree (one angle) and a second angle =**10** degree and third angle =0 is also possible.

Phi/theta/psi=**25** degree and the rest of the angles=0 is also possible.

Case 2: