

**Position Error Estimation and Compensation of 3-DOF Delta Robot under the effect of Link Tolerances**

Weekly Report

*Submitted by*

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SECTION A

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**Week No. 3**

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| **Sl. No.** | **Date** | **Details of work carried out** | **Comments** |
| 1 | 25/10/21 | **Study of Effect of Link Tolerance**  A detailed study was carried forward on what effect would the link tolerance have on the end effector position. Hence deriving the equation under the effect of link tolerance. |  |
| 2 | 26/10/21 | **Simulation**  Simulation through code was carried forward for the equation under the effect of link tolerance and verified using the 3D CAD Model. |  |
| 3 | 27/10/21 | **Graphical Analysis**  On this day all the graphs required so far were plotted and studied so as to understand the behavior with and without the influence of tolerance on links. |  |
| 4 | 28/10/21 | **Error Analysis**  A discussion on error analysis took place. A plan was proposed on how we are to tackle the maximum positional error obtained due to link tolerance. |  |
| 5 | 29/10/21 | **Statistical Study**  A statistical study was performed inorder to understand the maximum positional error obtained for each tolerance value and to study the underlying effects of it. |  |
| 6 | 30/10/21 | **Weekly Review**  Weekly review took place where all of the weeks work was verified. |  |
| **Summary of the work done in the week:**  In this week the effect of position under the influence of tolerance was studied and the graphs were analyzed. After looking at the accuracy of the work done an idea of publication of the work developed keeping in mind the need to compensate the maximum positional error. | | | |

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| **Challenges faced during the work:**  This week was overall an easier to process, the reading of graphs to provide a concrete a conclusion to them would be one of the challenges faced here. |
| **References:** |
| **Remarks:** |
| **Suggestions by the guide:** |
| **Signature of Student Signature of the guide** |