Innovate Award Submission Information Form

Only for events that are offering the Innovate Award

Instructions: Please fill out all information, printing clearly. For in-person notebooks, please place this page either inside the front cover of the team's notebook or placed as the **last entry** in the notebook when submitting it for judging. In the case of digital notebooks, a picture of the form can be uploaded and placed either at the beginning of the digital notebook, after the Table of Contents, or entered as the last entry in the notebook. Teams may only submit one aspect of their design to be considered for this award at each event.

Full Team Number: **ATUM**

Brief Description of the novel aspect of the team's design being submitted:

Our team developed a custom "Continuous Alternate Wheel" (CAW) system in order to aid in discontinuous ground contact with traditional omni wheels. During the autonomous period, the tracking wheels that our encoders read from need to be able to indicate motion in two directions as accurately as possible. While using IQ and 2" omni wheels to support tracking worked well enough in the past, we needed a design with little to no dead zone regarding ground contact. With this new wheel assembly, our tracking has improved drastically and we no longer have to work with near as much error build-up as the program progresses. The design consists of complex geometry obtained through 3D-Printing and laser-cutting. Through it's sophisticated design and rigid structure, these new tracking wheels effectively maximize traction, while minimizing vibration to give the best possible positional data.

Identify the page numbers and/or the section(s) where documentation of the development of this aspect can be found:

This can be found in Part II: Hardware listed under Senior Design Integration and analysis below the section Odometry.