

Time Optimal Trajectory Generation (TOTG)

- Most moveit planners output trajectory that needs time parameterization
- Original plugin doesn't actually respect velocity/acceleration limits
- Really terrible when your arm is very velocity sensitive!
- Consolidation of tickets (at first World Moveit Day in 2016):
<https://github.com/ros-planning/moveit/issues/160>
- My PR in 2018: <https://github.com/ros-planning/moveit/issues/160>
- Henning Kayser PR in 2019: <https://github.com/ros-planning/moveit/pull/809>



How to use it - Edit ompl_planning_pipeline.launch.xml

```
<launch>
  <!-- OMPL Plugin for MoveIt! -->
  <arg name="planning_plugin" value="ompl_interface/OMPLPlanner" />

  <!-- The request adapters (plugins) used when planning with OMPL.
        ORDER MATTERS -->
  <arg name="planning_adapters" value="default_planner_request_adapters/AddTimeOptimalParameterization
        default_planner_request_adapters/FixWorkspaceBounds
        default_planner_request_adapters/FixStartStateBounds
        default_planner_request_adapters/FixStartStateCollision
        default_planner_request_adapters/FixStartStatePathConstraints"/>
```

...



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What it is

- Better In Melodic and master branch
- Paper: Kunz, Tobias, and Mike Stilman. "Time-optimal trajectory generation for path following with bounded acceleration and velocity." *Robotics: Science and Systems VIII* (2012): 1-8.

What it isn't

- Jerk Limited

