Modifying Properties of Laser Scan

This document shows you how to accomplish a couple of things by modifying the relevant properties in the 'model.sdf' file of the Turtblebot2 'burger' robot.

a) Change the scanning range of the LiDAR device of the Turtlebot3 in Gazebo.
b) Turn off the blue rays of the LiDAR in Gazebo (which can affect computation speed due to the need for frequent screen refreshing).

The snapshot (next page) is from a 'CoPilot' enquiry. Your 'model.sdf' file might have content that is somewhat different overall. But you just need to find the two statements to which the changes need to be applied!

First, locate the 'model.sdf' file within your directory structure and open it up for editing.

Method: Modify the Visual Settings in the SDF File

1. **Locate the Model File**: Open the TurtleBot3 model file, typically named `turtlebot3_burger.model.sdf` or a similar `.sdf` file in the `models` directory of your TurtleBot3 package.
2. **Edit the Visual Settings**: Find the `<sensor>` tag for the LiDAR and look for the `<visualize>` tag within it. Change its value to `false` to disable the visualization of the LiDAR rays without affecting its functionality.

Xml Copy

```
<sensor name="hlds_laser_sensor" type="ray">
  <always_on>true</always_on>
  <update_rate>30</update_rate>
  <pose>0 0 0.1 0 0 0</pose>
  <visualize>false</visualize> <!— Set this to false —>
  <ray>
    <scan>
      <horizontal>
        <samples>360</samples>
        <resolution>1</resolution>
        <min_angle>-1.5708</min_angle>
        <max_angle>1.5708</max_angle>
      </horizontal>
    </scan>
    <range>
      <min>0.12</min>
      <max>3.5</max>
    </range>
  </ray>
</sensor>
```

Turn off rays!

Change max range!

3. **Save and Relaunch**: Save the changes to the `.sdf` file and relaunch your Gazebo simulation.

This should keep the LiDAR functional while hiding the blue ray tracing visuals. Does this work for you?

After you have saved the edits, if Gazebo is open. it must be shut down and relaunched for the changes to take effect.