How to simulate the AEB function from `autonomous_emergency_braking` package #4669

🗨 Closed   ✓ Answered by danielsanchezaran   **felixf4xu** asked this question in **Q&A**
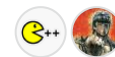
Category

🙏 Q&A

felixf4xu on Apr 29

Hi,

I'm using the simple simulator inside rviz and try to simulate the AEB function from `autonomous_emergency_braking` package.

What I do is like this:

1. set initial and goal position
2. in the path, set a Dummy Car object
3. verify the vehicle stops

But by what the rviz displays and the autoware log, it seems that there are 3 possible stop reasons,

- first one,
  "obstacle on the path", this is from `obstacle_stop_planner`, which is from **planning** module;

- second one,

  > [control.trajectory_follower.controller_node_exe.longitudinal_controller]:
  > [Emergency stop] vel: 0.000, acc: -2.145

this is from `longitudinal_controller` module

- last one,

```
RCLCPP_WARN(this->get_logger(), "Emergency stop is operated");
```

this is from `emergency_handler`

I would like to check which one should I use? will be activated by different conditions? should I disable some of them so that I can use `autonomous_emergency_braking` package.

Thanks.

↑ 1

Labels

component:system
component:planning

2 participants

✓ Answered by **danielsanchezaran** on May 10

2 comments

danielsanchezaran on May 10 [Collaborator]   edited ▾

@**felixf4xu** The AEB module is usually disabled by default. If you want to enable the module to stop your vehicle in PSim you can apply these changes to Autoware launch

What these changes do:

1. collision_keeping_sec 0.0 -> 1.0 How long the emergency message should be maintained by AEB, if it is 0.0 the module does not have a chance to send a stop signal even once. (Necessary change)

2. use_emergency_handling: false ->true. The vehicle_cmd_gate module is the one that actually stops the ego vehicle, but its an optional parameter. (Necessary change)
   3)default: obstacle_cruise_planner -> none. This is to make sure the stop planner is NOT the module that is stopping the ego vehicle when you set an NPC, but it is not really necessary to disable the stop planner to make AEB work.

3. target acc, and target jerk -> This is just to make sure the AEB will be able to stop the ego vehicle. If the ego is going too fast and you place the NPC in front of the ego, it might be possible that stopping the ego incurs into a high jerk/accel that surpasses these limits, so I suggest you

first change it to these high values and then check if AEB works as you expect or if the braking is too hard.

4. `/autoware/control/autonomous_emergency_braking/performance_monito ring/emergency_stop: { sf_at: "none", lf_at: "warn", spf_at: "error", auto_recovery: "false", ignore_until_waiting_for_route: "true"}` This is to enable AEB in PSim iirc. Necessary change

You might also need to enable AEB if you have not done so yet:
on
autoware_launch/launch/components/tier4_control_component.launch.xml
`arg name="enable_autonomous_emergency_braking" default="true"`
Please let me know if this solves your problem.

✓ Marked as answer   ↑ 1   👍 1   0 replies

Answer selected by **felixf4xu**

---

danielsanchezaran on May 13   (Collaborator)   edited ▾

Closing this issue since the answer has been accepted.

↑ 1   0 replies