

Title: Impact of Reduced Visibility Conditions on Laser-Based DP Sensors

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Abstract

The traditional view of use of DP sensors in reduced visibility conditions is that radar and inertial based sensors work well in these environments and the laser based sensors do not. In extremely bad conditions this is true. In lightly to moderately reduced visibility we must understand the impact of the fog on the performance of a laser based DP sensor. With a variety of targets at 60m, we demonstrate operation in heavily reduced visibility and we show the visual appearance of these environmental conditions. We have also modelled some specific use requirements and evaluated how a system will perform in those environmental conditions with differing types of targets. We consider extensions of this modelling to other adverse weather conditions. We will finish by evaluating prism targets on the basis that they are for use in reduced visibility environments rather than the more usual evaluation on the basis of extended range.

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