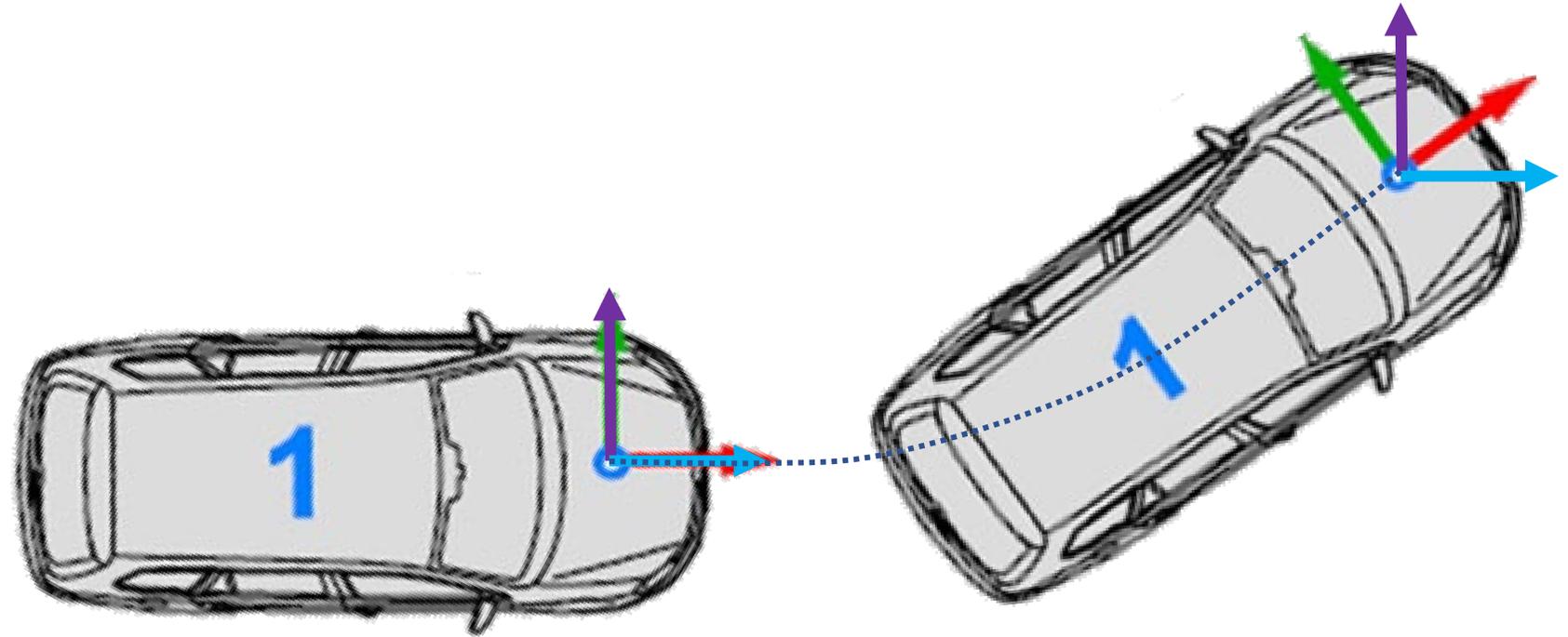
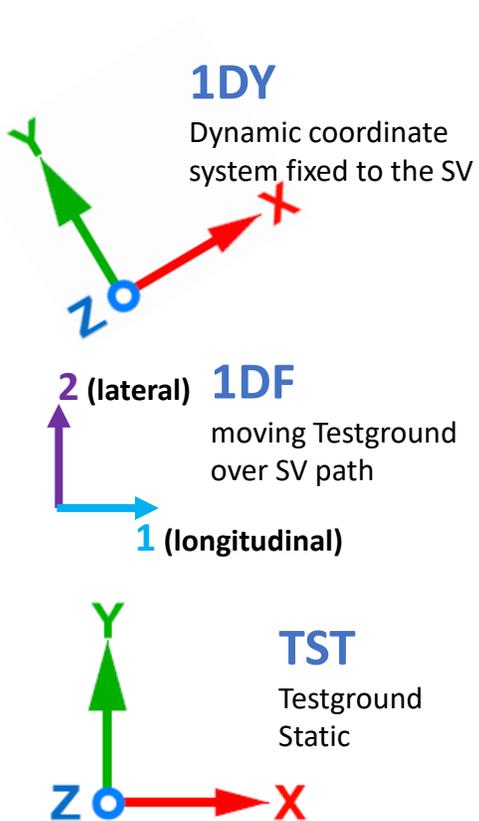


ID	Characteristic	Directions	Description	Remark
1DY	SV dynamic	X Y Z	Dynamic coordinate system fixed to the SV	Vehicle coordinate system according ISO 8855. Moving direction is X
2DY	Target dynamic	X Y Z	Dynamic coordinate system fixed to the target	Analog to a vehicle coordinate system according ISO 8855. Moving direction is X
1DF	SV dynamic with orientation fixed over TST	1 2 3	Dynamic coordinate system with orientation fixed to TST center fixed to the moving SV	Vehicle coordinate system based on 1DY on test start. Moving direction is 1
2DF	target dynamic with orientation fixed over TST	1 2 3	Dynamic coordinate system with orientation fixed to TST center fixed to the moving target	Vehicle coordinate system based on 2DY on test start. Moving direction is 1
TST	Testground Static	X Y Z	Stationary earth-fixed axis system with an origin that is fixed in the ground plane	Derived from NED system by moving the origin to a point at the test ground and rotating the X axis to the main driving direction.



Example of 1DY and 2DF with reference point in the center of the front axle

## Explanation from RED F

1DY and 2DY are right-hand coordinate systems according to ISO 8855, where:  $Z = \vec{X} \times \vec{Y}$ .

The X and Y axes of the coordinate system are parallel to the ground plane, with the X and Y axis aligned with the vertical projection of the  $X_v$  and  $Y_v$  axis (vehicle axis) on to the ground plane.

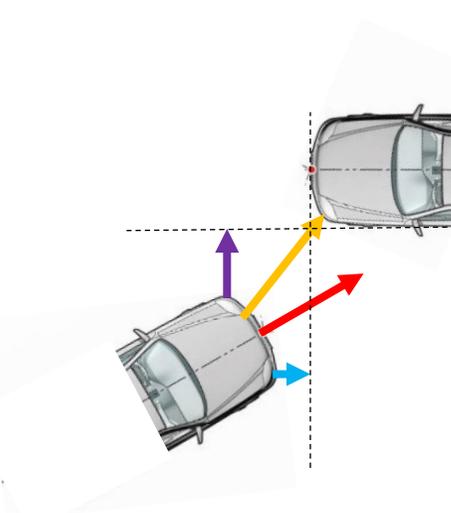
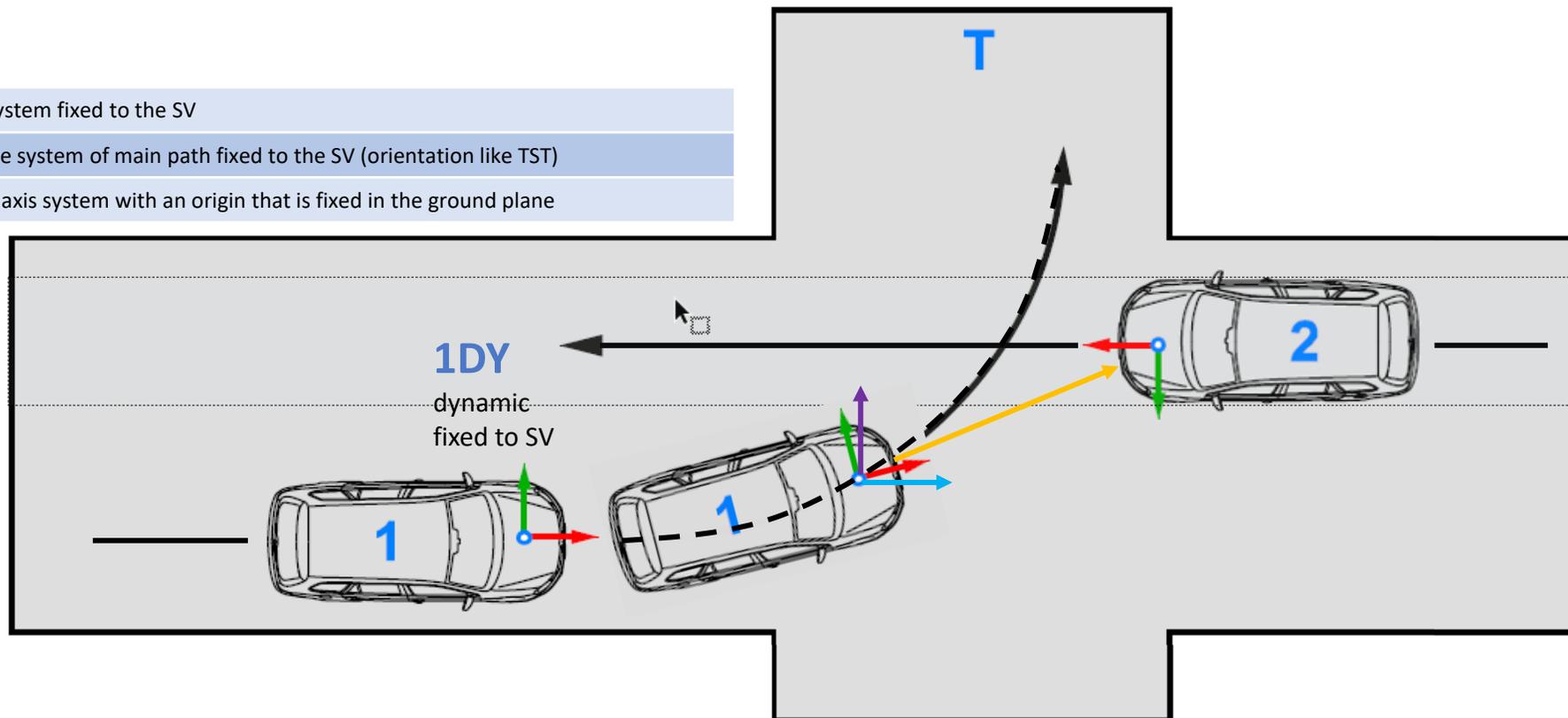
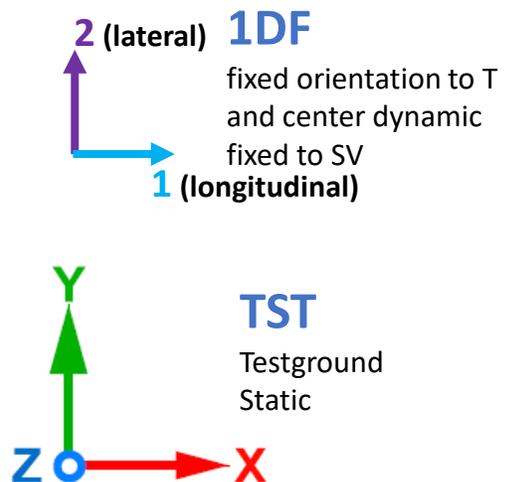
The vehicle reference point is the point fixed in the vehicle sprung mass if no other point is explicit named. But this vehicle reference point may be defined in a variety of locations, based on the needs of the analysis or test: vehicle center of gravity, the sprung mass center of gravity, the mid-wheelbase point at the height of the center of gravity, and the center of the front axle.

1DF and 2DF is the right-hand coordinate system based on 1DY with fixed orientations of the axis to the initial direction over test ground. Despite all rotations of the test object over the test ground, the coordinate system maintains its orientation in X and Y.

In order to show that only longitudinal and lateral distances are determined, the directions 1, 2 and 3 are used.

## Examples

1DY	Dynamic coordinate system fixed to the SV
1DF	Non turning coordinate system of main path fixed to the SV (orientation like TST)
TST	Stationary earth-fixed axis system with an origin that is fixed in the ground plane



Direction	Example	ISCO code	Koord.	
Headway	Headway distance	10VEHC00DI00DSXP	1DY	Y = Sidwards / Lateral X = Headway / Longitudinal
	Impact velocity	10VEHC00DI00VEXP		
Longitudinal	Longitud. distance	10VEHC00DI00DC1P	1DF	1 = Longitudinal (~ X in 1DY on test start)
	Longitud. velocity	10VEHC00DI00VE1P		
Lateral	Lateral distance	10VEHC00DI00DC2P	1DF	2 = Lateral (~ Y in 1DY on test start) 3 = Vertical (~ Z in 1DY on test start)
	Lateral velocity	10VEHC00DI00VE2P		
Undirected	Minimal distance	10VEHC00DI00DS0P	LOC	0 = undirected (redirecting during test)