

Racing Line Curvature Profile

If you have some telemetry for a track then you can extract the curvature profile of the racing line from *vCar* and *gLat* channels (contact us for help with the extraction and filtering if you so wish). Once you have a pair of vectors, one full of sLap values at intervals of approximately 1m (the exact interval is not important, but, for example, 1 point every mm would give an overly large track file) and one full of curvature values in 1/m. Once you have these, we can enter them into the platform.

Select *New Track* on the **Track Configurations** page. You will see that your are given options to enter all sorts of information, most of which you won't have. Select *Properties* next to the **Track** heading and deselect, **Centre Line**, **Outline**, and **Lap Scalar Results**; this will leave you with only the fields which you need for this process. Now paste in your vectors of cLap and sLap values. Give your track a name and an altitude (so that we can get the air density right) and hit *Create*. This will take you back to the list of tracks and your new track will be at the top of the list. Your track is now ready to go, you can stage it and run simulations using it. If your track looks a bit funky on the track viewer, don't worry too much; the sensitivity of x-y position to curvature is extremely high due to the integration of filtering errors - the comparison of vCar to telemetry should be your first recourse when checking the suitability of your racing line. To simulate track camber and gradient in Dynamic Lap when following racing line curvature profile, additional vectors can be pasted in for aTrackCamber, zTrack (or alternatively aTrackIncline).