

For the density construction there were three approaches to the covariance matrix for the density function.

1. Diagonal covariance matrix with the same value in each of the diagonal entries.
2. Diagonal covariance matrix with the first two diagonal entries proportional to the segment radius and the third entry proportional to the segment length.
3. Not necessarily diagonal matrix made by multiplying the matrix from step 2 on the right and left by the rotation matrices  $R$  and  $R^{-1}$  respectively.

HERE ARE THE ACKNOWLEDGEMENTS

## References